

VOCATIONAL EDUCATION IN MYSORE

A RETROSPECT AND A PROSPECT

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PREFACE.

MYSORE, the second largest Indian State in the British Empire, has done much to advance the education of its people during the last three-quarters of a century. No subject in its educational system has attracted more attention of its enlightened public and its Government than vocational education. Though the resources of the State have been limited, admirable attempts have been made, especially in recent years, by the Government of Mysore to advance the industrial, agricultural and commercial efficiency of the people. But, what has been achieved till now pales into insignificance as compared with what remains still to be done for Mysore to come up to the standards of vocational competency of the more advanced countries of the West.

In this dissertation, vocational education of less than college grade has been dealt with generally. Education of college grade has been referred to only in so far as it has a direct bearing on the former type.

The progress that has been made in Mysore up to the present in trade and industrial education, in agricultural education and in commercial education has been reviewed. Then the basic theories of vocational education as applicable to Mysore conditions have been developed and proposals have been formulated for advancing vocational education there. Trade and industrial education, agricultural education, commercial education, home-economics education, teacher-training for vocational education and vocational guidance are the topics covered.

In this work, I have utilized the experience I gained in the various fields of general and vocational education in Mysore for fourteen years during which I served as a Lecturer in Science, as Inspector of Science Education for the whole State, as Educational Survey Officer, as Headmaster of a Government High School and as a District Educational Officer. I have drawn upon my experience of British Indian conditions gained by travel throughout

India, and I have utilized information contained in the reports of the Indian Government having a bearing on this subject. I have also made use of the knowledge of systems of vocational education in the United States gained during my studies as a student in the Teachers College, Columbia University, for two years (1930-1932), by the visits I made to general and vocational schools under the direction of the Professors of the International Institute and of my major Professor Dr. David Snedden, and in my interviews and conferences with the various educational officers, headmasters and teachers of general and vocational subjects.

This study was possible to me because of the kindness of the Government of Mysore in granting me a Free Damodar Das Scholarship for two years for the study of vocational education in America. I offer my most grateful thanks to the Government. I cannot be sufficiently thankful to Rajamanthrapravina Mr. K. Matthan, B.A., Member of Council of the Government of Mysore and to Mr. N. S. Subba Rao, M.A., Bar-at-Law, Director of Public Instruction in Mysore, for their sympathy and support which made the grant of the scholarship to me possible. I thank the International Institute for awarding me a tuition scholarship for one semester of 1931-32.

I am highly grateful to Dr. David Snedden for his constant interest in my work, and for his ever ready and sympathetic guidance throughout my studies under him. I am greatly indebted to my advisors, Professors L. M. Wilson and H. M. Walker and Dr. F. Strickler, for their valuable criticism and help during the progress of my dissertation.

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K. N. KINI.

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CHAPTER I.

PART I.

Introductory.

A. EXPERIENCE GAINED IN THE UNITED STATES.

No subject in the field of education has received greater attention from the Government of Mysore than vocational education, but no branch has progressed less than vocational education. It is certainly hazardous to offer a satisfactory explanation for this state of affairs. Broadly speaking, however, it may be stated that the old father-son apprenticeship is largely holding the imagination of the people in agriculture, in artisan-type trades and industry, and in commerce, and the mass of the people have not realized the advantages of organized school training for vocations. In home-making, mother-daughter apprenticeship is the rule, and home economics education as understood in the Western countries is non-existent. At the professional level, however, some progress has been made due mainly to the fact that a recipient of a college degree in engineering or medicine or law has had, at any rate till very recently, fair chances of getting lucrative positions in Government service or of earning decent incomes by private practice as in law and medicine. But, in the field of vocational education of less than college level and especially at the artisan level, the stick-to-it-iveness to the older apprenticeship is very predominant.

Having learned through books and journals the enormous strides made by the United States in advancing vocational education in recent years and having read about the phenomenal progress made by her in industry, agriculture, commerce and home-making, I was stimulated to make a study of the rise and progress of the American systems of vocational education. The highly dynamic efforts of that country in achieving material

advancement and her great faith in experimentation for bettering the standards of living caught my imagination. Having been a worker in the educational line in Mysore in its various branches, I thought that the United States would afford me many useful suggestions and provide me with much instruction for bettering the conditions in my own native land. The Government of Mysore was kind enough to depute me to America for the study of vocational education for two years. During the last two years of my study in the United States, my hopes have been greatly realized.

As a student in the Teachers' College, Columbia University, I have gained much instruction and experience in the various branches of education, general and vocational. The courses in American Education, in Educational Sociology, Psychology and Philosophy, and in Techniques of Teaching, have afforded me an insight into the educational ideals, theories and practices prevalent in America. Courses in the Introductory Theory and Principles of Administration of vocational education have enlightened me on the current educational, industrial and social forces behind the movement and on the administrative standards in vogue at present. The specialized courses in the Administration and Supervision of Vocational Education and in Part-Time Vocational Education have been very instructive in understanding the details of the standards of efficiency of vocational education in its various branches. The courses in the foundations and practices of Industrial Arts in Secondary Schools have shown the fundamental difference in scope and utility between vocational education for gaining vocational competency and industrial arts for gaining appreciation of industry for liberal education purposes. The courses in European education have enabled me to make a comparative study of systems of education, with special emphasis on vocational education, in the principal countries of Europe, namely, Germany, England and France, and in the United States. The course in Guidance and Personnel enabled me to understand the principles and methods of educational and vocational guidance as it is practised in America, and also as it is

desired, by experts in the subject, to be practised in the future.

What is of considerable practical value to me are the visits I made to the different educational institutions of America, the discussions I had with some of the leading educators and educational administrators and the instruction I gained by attending educational conferences. The visits to general and vocational schools in New York City, White Plains, New Rochelle, Trenton, Princeton, Towson, Baltimore, Reisterstown, Hereford, Evana, Sparks, Bayonne, Hartford, Springfield, Storrs, Holyoke, Huntington, Westfield, Boston, Niagara, Detroit and Washington, D.C., provided me opportunities to study at first hand the organization, the practices and techniques, and the methods of administration and supervision adopted in the general and vocational school systems—city, state and rural—of the United States.

B. GROWTH OF VOCATIONAL EDUCATION IN THE UNITED STATES.

(a) *Vocational Education in the Public Schools.*

The first attempts of the Congress of the United States to afford vocational education to the people resulted in the passing of the Morrill Act of 1862 by which public lands were donated to the several states for establishing colleges of agriculture and mechanic arts. In the earlier days instruction was not of high standard. Later distinction was made between instruction of secondary grade and instruction of college grade. Some of these land-grant colleges maintain agricultural courses of secondary grade under various names such as "short courses," "one year course in agriculture," etc. They now provide instruction of college level in different branches of engineering, train teachers of vocational subjects and do agricultural extension work among the farmers. The Hatch Act of 1887 appropriated money for experimental stations to conduct research in agriculture. The subsequent acts raised the amount of these appropriations. The Smith-Lever Act of 1914 set up agricultural extension work.

The Great War pointedly drew the attention of the great American nation to the need of establishing a broad system of vocational education of less than college grade and led to the passing by the Congress of the Smith-Hughes Act of 1917. This act "provided for a Federal Board of Vocational Education; acceptance of the law by the States; national aid to the States for the salaries of teachers in the vocational schools and classes set up under the new national programme; the States which voluntarily elected to co-operate under this joint programme were required to match the Federal money dollar for dollar; provision was made for national studies and investigations regarding the vocational training needs of agriculture, home economics, industry, trade and commerce. The vocational courses set up under the programme were to be under the local supervision of public-school authorities in the States. The instruction must be suitable for students over 14 years of age. It must be of less than college grade, and must be intended primarily for those who had entered or who intended to enter a trade or useful industrial pursuit."¹

Three types of vocational schools have been set up under this act and as part of the American public school system: "(1) The vocational day school, for boys and girls who have chosen an occupation and desire training for it; (2) the part-time school for persons who are employed but who can devote part of the day to receiving systematic instruction and training in the line of their employment; (3) the evening school, for workers who desire to devote some time outside their regular employment hours to improving their efficiency in the occupations in which they are engaged."²

For the fiscal year ending June 30, 1930, the Federal, State and Local money spent under this act for agricultural education was 8.8 million dollars, for home economics 4.4 millions, and for trade and industrial education

¹ *Vocational Education in the United States*, Document No. 309, 71st Congress, 3rd Session, February 17, 1931.

² *Ibid.*, p. 5.

15 millions. No provision has up to now been made for Federal participation in commercial education beyond making studies and investigations and reports to aid in the establishment of vocational schools and classes and in giving instruction in commerce. Direct aid to commercial education was omitted in the Smith-Hughes Act because it was thought, at the time of its passage through Congress, that adequate provision was already being made in public and private schools for commerce training. It is being realized now that commercial education does require stimulus of the Federal grants and it will, perhaps, not be long before Federal aid is given to it.

As a result of the working of the act for slightly more than 10 years, about a million persons of both sexes were enrolled in 1930 in the Smith-Hughes schools for "learning to farm better, to make better homes, or to be more efficient at some particular job in industry."

The objectives with which the Federal Government took steps to co-operate with the States seem to have been realized, at any rate, to a considerable extent. As the report to the Congress says: "The results of these programmes speak for themselves in terms of human happiness, welfare, and the removal of such social injustice as may arise not from unequal distribution of wealth but from an unequal distribution of opportunity. Each of these programmes represents an attempt on the part of the Congress, acting in co-operation with the States, to correct a situation of obvious social disparity. Each of these programmes also represents the assumption on the part of the National Government of its proper share of responsibility for remedying these situations . . . The Nation must participate liberally in the promotion of these programmes and their more liberal maintenance in the future. The work must be stimulated and encouraged by appropriate legislation."³

Subsequent to the passing of the Smith-Hughes Legislation, a few more acts have been passed making provision for the vocational rehabilitation of persons

³ *Ibid.*, p. 30.

disabled in industry and for further promotion of vocational education. The George-Reed Act of 1929 provides money for the further development of agricultural and home economics education.

(b) *Vocational Education Outside the Public Schools.*

Outside the public school system, there is considerable vocational instruction going on. Many business concerns maintain vocational classes for fitting their new employees for efficient service or for the further training of persons already in their service to fit them to more responsible positions in their lines.⁴ These schools go by the name of "corporation schools". The Standard Oil Company, Ford Motor Company, United States Steel Corporation, Pennsylvania Railroad and many other large concerns have established these schools and have formed what is called the National Association for the Promotion of Industrial Education. There is, however, a fear in the minds of some educators that the large business concerns are exploiting the youth of America for gaining huge profits for themselves, and whether it is a good thing for a democracy that these rich commercial houses and industrial plants should be allowed to control the vocational instruction of young people. While at Detroit I visited the Henry Ford Trade School in Ford Works. The equipment for training the pupils is magnificent, and the arrangement for trade practice, being in the Ford Factory itself, is superb. Most of the pupils that graduate from the school are employed in the factory, if they are willing to serve. Whether there is actual exploitation of youths for private gains requires careful investigation.

The Y.M.C.A., the Y.W.C.A., the Knights of Columbus and many private philanthropic endowed schools have been conducting vocational education and have been spending large sums of money. The correspondence schools are thriving because of the supposed vocational value of the courses offered by them.

⁴ A. F. Payne, *Administration of Vocational Education*, McGraw-Hill Book Co., New York, 1924, pp. 33 to 44.

America, being a highly industrial and commercial country, people do take advantage of the vocational courses offered by these private agencies for whatever they are worth.

(c) *Trends in Vocational Education in the Public School System.*

The trend of enlightened public opinion in the United States is to keep children in general schools till the sixteenth year and then soon to extend the compulsory education age to eighteen years. This appears to be possible in America because the country is wealthy, the families are very small, the longevity of life of the people is growing, immigration is limited and parents are becoming more ambitious about the education of their children. After completing the general or liberal education of nearly the high school level, a child is to go to a vocational school, if at that stage the earning is necessary for him. No vocational education is to be given in the secondary schools. The high schools are to be maintained purely for cultural purposes.

At one time, manual arts were considered to comprise vocational education. Opinion is growing that their function is appreciation of industry and not the imparting of vocational efficiency. Yet there are teachers of this subject who firmly believe that instruction in manual arts is vocational education.

It is also proposed that every person should be given an opportunity to train himself or herself for one vocation (after the age of eighteen), the expenses to be borne by the State.

D. Snedden, who more than any other, has been advocating a broad-based efficient system of vocational education for America, writes :⁵ "Toward helping the early development of really efficient vocational schools thoughtful laymen and educators can :—

⁵ D. Snedden, "A Philosophy of More and Better Vocational Education," *Baltimore Bulletin of Education*, November 1930.

- (a) Help 'debunk' the manual arts or industrial arts programme of pretences, still accepted by the public, of contributing anything of vocational education.
- (b) Clarify their own still muddled notions as to the practicable and genuine *functional possibilities* of junior and senior high schools, junior colleges, and liberal colleges. Most of these institutions should make no pretence of giving vocational education. Most of them are practising well-intentioned quackery when they pretend to give it or even to give a 'vocational bias' to otherwise general courses.
- (c) Practise self-cures of inherited notions that 'mere trade training' or any other 'mere' vocational education is of any less importance at proper places and seasons than any other education.
- (d) Beware of jumping from the frying pan into the fire, as some have lately, in contending that 'all good education' is vocational education."

Snedden wants compulsory continuation schools to limit their functions to mere cultural studies and not to play with vocational education. He advocates direct and intensive vocational education just before the child has to enter on an earning career. The occupation to be followed by him is to be determined by an efficient and judicious system of vocational guidance. The duration of the course is to depend upon the nature and requirements of the occupation. Vocational full-time schools are to be provided for all vocations.

C. APPLICATION OF AMERICAN EXPERIENCE TO MYSORE.

The knowledge and experience that I have gained in America about her system of vocational education is useful to me to formulate general principles and to provide useful hints regarding methods and techniques for a system of vocational education in Mysore and to make proposals suited to the needs of the latter. But the social, economic and occupational conditions in Mysore being

markedly different from those in America, any total transplantation of ideas or institutions from the latter to the former country would be impracticable and futile. Mysore has much leeway yet to make in education, modern industry and commerce, and in wealth. The proposals for Mysore ought to take this factor into consideration. The change from a purely agricultural State to one where both agriculture and industry are blended in a wholesome proportion can only be brought about gradually.

Basic theories of vocational education for Mysore have been developed in Chapter V and proposals for a system of vocational education, for training teachers for vocational schools and for organizing vocational guidance have been made in the next three chapters.

PART II.

Introduction to Conditions in Mysore.

A. GEOGRAPHICAL SITUATION OF MYSORE : PHYSICAL FEATURES.

The Mysore State is a compact area of 29,469 square miles (including the Civil and Military Station of Bangalore) situated a little below the centre of the peninsular region of India which projects into the Indian Ocean and "lying between 11° 36' and 15° 2' N. and 74° 38' and 78° 36' E."¹ It is almost surrounded by the Madras Presidency, except in the north-west where it borders upon the Bombay Presidency.

"It is naturally divided into two regions of distinct character—the hill country called the Malnad on the west, and the more open country known as the Maidan, comprising the greater part of the State, where the wide-spreading valleys and plains are covered with villages and populous towns. The drainage of the country, with slight exception, finds its way into the Bay of Bengal, and is divisible into three great river systems—that of Kistna on the north, the Cauvery on the south, and the Northern

¹ *Imperial Gazetteer of India*, 1908, Vol. XVIII, p. 161.

and Southern Pennar and Palar on the east. Owing to either rocky or shallow beds none of the Mysore rivers is navigable. The main streams, especially the Cauvery and its tributaries, support an extensive system of irrigation by means of channels drawn from immense dams (anicutts), which retain the water at a high level and permit only the overflow to pass down the stream. The streams are embanked to form reservoirs or tanks."²

The Western Ghats (ranges of mountains) which receive plentiful rain during the south-west monsoon season, that is, from June to October, are richly studded with valuable and magnificent forests and contain rich flora. The timber forms a great asset to the State and yields a good portion of the annual revenue. The forests abound also in good game. These Ghats form the western boundary of the State.

The Eastern Ghats, lying on the east of the State, are more broken than the Western, receive less rain from the north-east monsoon from November to January and have therefore no rich forests. They abound in shrubs.

Since the State lies between these two series of mountain ranges which unite into the Nilgiri Hills in the south, it forms a plateau of elevation ranging from 2,000 to 3,000 feet above the sea-level, which affords a very equable climate, not subject to great extremes as in some other parts of India. The bracing climate is found to be conducive to vigour, both physical and mental. "In the winter months of December and January, the mean temperature ranges from 62° in the western districts and the high altitudes to 67° in the eastern districts. Summer temperatures seldom go above 100°, while the mean summer temperature ranges from 83° to 87°. Crop raising is possible throughout the year, the temperature never going down so low as to arrest growth. The mildness of the climate is indeed one of the marked features of the State, which allows of its being able to grow a variety of special crops to perfection which cannot be thought of

² *Encyclopædia Britannica*, Vol. 16, 14th Edition, p. 44.

in the plains.”³ Hence the State grows large varieties of vegetables and fruits of Indian and European origin and supplies to many places beyond its borders.

The State is divided into eight districts for purposes of administration. The districts are Bangalore, Kolar, Tumkur, Mysore, Hassan, Shimoga, Kadur and Chitaldroog. The eight units are divided into further smaller units called ‘ taluks ’ which are 80 in number.

The capital of the State is Mysore City, where resides the ruler of the State, His Highness the Maharaja of Mysore. The administrative headquarters of the Government is Bangalore City, which has an elevation of 3,100 feet above the sea-level and therefore possesses a very salubrious climate.

B. URBAN AND RURAL CONDITIONS IN MYSORE.

Mysore, like the rest of India, is mainly rural. While there are 104 towns,⁴ by which are meant tracts which are designated by the State Government as municipalities for purposes of local self-government, there are no less than 16,568 inhabited villages.⁵ Of the 104 towns, 33 have each more than 5,000 population and 79 have more than 2,500.⁶ In the highly industrial countries of Europe and America, cities and towns have sprung up on account of the enormous growth of industry and commerce. In Mysore there are only four places noted for large-scale manufactures and trade, namely, Bangalore City (118,556), Kolar Gold Fields City (87,682), Mysore City (83,951) and Davangere (16,971).⁷ Within the past decade, Bhadravati has been evincing signs of becoming an important industrial centre on account of the development of iron-smelting there. The other towns are more or less

³ *Report on the Progress of Agriculture in Mysore*, 1928, pp. 1-2.

⁴ Excluding Civil and Military Station.

⁵ *Census of India*, 1921, Vol. XXIII, Mysore, Part I, pp. 17-19.

⁶ *Ibid.*, Part II, Table IV.

⁷ Figures in brackets show population, Census 1921.

overgrown villages, with no big industrial undertakings of the type witnessed in Western countries or in the larger cities of India.

On account of the introduction of railways and the enormous growth of motor bus traffic in recent years, a great surging of population takes place between urban and rural areas. The towns undoubtedly show increased signs of business activity. The proportion of urban population to rural has not materially increased during the last half century. In 1871, 9.6 per cent of the population was urban. In 1921, the percentage was 12.7. It does not seem probable that the percentage revealed by the 1931 census will be much larger than this. The reasons are that the State is mainly agricultural, nearly three-fourths of the population being employed in agriculture.⁸ The growth of industries is too slow, notwithstanding the efforts of the Government to foster them. The very slow augmentation of the proportion of urban population is an all-India feature. "The progress of urbanization in India—if there has been any progress at all—has been very slow during the past thirty years, the whole increase being less than one per cent."⁹

C. AGRICULTURAL AND MINERAL WEALTH OF MYSORE.

(a) *Agricultural Wealth.*

The total area of the State is 18.9 million acres. Deducting waste land and land under forests, a net amount of 8.8 million acres is available for agriculture, of which 8.1 million acres or ninety-two per cent are under actual cultivation.¹⁰

About 83 per cent of the arable land is under dry cultivation. The main dry crops are ragi, jola, pulses, cotton, tobacco and oil-seeds. If the seasonal rains do

⁸ *The Indian Year Book*, The Times of India Press, Bombay, 1931, p. 191.

⁹ *Ibid.*, p. 21.

¹⁰ *Report on the Administration of Mysore*, 1929-30, p. 7.

not fall in time, this cultivation suffers greatly and the farmers lose heavily. The wet crops, grown in the remaining 17 per cent of the cultivable land, are raised mostly by irrigation water.

"Irrigation is certainly the most important factor in crop production in the State, and provided water is given, there is no season of the year when crops cannot be raised to perfection in the State.....From time immemorial, this has been realized, and the State possesses a most extensive system of irrigation works..... Though much has been done by the State and the people, there is still scope for a great deal of work in the improvement of existing irrigation sources, the construction of new works and a great expansion of irrigation wells."¹¹

Rice, pepper, areca-nut, sugarcane, betel-leaf, mulberry and cocoanut are the principal wet crops. Fruit and vegetable production is receiving special attention, especially in the vicinity of Bangalore City. Coffee and spices are grown in the hilly tracts.

The annual agricultural production in the State has been estimated to be 180 million rupees¹² or roughly 60 million dollars.

(b) *Mineral Wealth.*

Gold is the most important mineral wealth of Mysore. "In point of value the produce of the Mysore Gold Mines (in Kolar) stands second amongst the minerals of the Indian Empire, being surpassed only by coal the total value of which is now rather more than $1\frac{1}{2}$ times the value of the gold from the Kolar Gold Field."¹³ In the year 1929, the value of gold and silver produced was a little over a million and a half pounds sterling.¹⁴ The royalty payable to the Government was nearly £84,000.

¹¹ *Agriculture in Mysore*, 1926, p. 4.

¹² *Ibid*, p. 10.

¹³ Department of Mines and Geology, Mysore State, *Mineral Resources of Mysore*, 1918, p. 3.

¹⁴ *Report on the Administration of Mysore*, 1929-30, p. 46.

"The total quantity of fine gold produced from the commencement of the mining operations in 1882 up to the end of the year 1929 was 16,263,019.983 ounces of the total value of £70,329,290 and the dividend paid during this period amounted to £22,122,263."¹⁵

Iron, limestone, manganese, chromite, magnesite, kaolin and soap-stone are the other important minerals. In 1929-30, 50,017 tons of iron ore and 2,205 tons of limestone were mined, more than four-fifths of each being used by the Mysore Iron Works to produce pig iron. The quantities of the other minerals mined were 44,150 tons of manganese, 27,048 tons of chromite, 1,276 tons of magnesite, 3,281 tons of kaolin and 106 tons of soap-stone. The royalty due to the Government on minerals other than gold was 89,000 rupees or nearly 30,000 dollars.¹⁶

Other minerals like copper, silver, lead, zinc and antimony are found in such small quantities that they are commercially unimportant.

D. STATE OF AGRICULTURE, INDUSTRIES AND COMMERCE IN MYSORE.

(a) *Agriculture.*

Agriculture is practised by most farmers with the aid of primitive small-scale implements and with the use of cattle and green-leaf manure which is not properly preserved. The average size of the holding is about 6½ acres, which is too small for maintaining a family in comfort. "The bulk of the holdings are, moreover, composed of fields scattered and far removed from each other with all the disadvantages such a system implies."¹⁷ Add to all this, eighty-three per cent of the land is dry-farmed and is dependent upon a precarious rainfall. Hence the economic condition of most farmers is low.

A distinct step for improving agriculture in the State was taken when the Department of Agriculture was

¹⁵ *Ibid.*

¹⁶ *Ibid.*, pp. 46, 47.

¹⁷ *Agriculture in Mysore*, 1926, p. 3.

organized in 1914. To-day the Department has a Director of Agriculture as the head, a Deputy Director, an Assistant Director and 27 Agricultural Inspectors to do propaganda and extension work, and a staff of research experts in the fields of agricultural chemistry, entomology, mycology, botany and agricultural engineering. It has done considerable work for the improvement of agriculture by introducing improved tillage implements, improved varieties of seed, artificial manures and better varieties of draught cattle, and by finding remedies for many diseases in plants and cattle.

All the same the Director states: "What has been accomplished so far, substantial as it is, is little as compared with what can be and what has to be accomplished."¹⁸

His Highness the Maharaja of Mysore, while opening the meeting of the Board of Agriculture of India in January 1924, said:¹⁹ "When we look at the field that is open before you, when we consider the needs of Indian agriculture, we must all of us be struck by the immensity of the task that lies ahead. The immense distance which lies between Indian agriculture as it is and Indian agriculture as it should be calls for the most strenuous efforts you can put forward and for the most loyal support and recognition of your work on the part of local Governments."

(b) *Industries.*

Industries in Mysore may be divided into two categories, namely, (1) rural industries, and (2) urban industries. Aside from agriculture, the rural industries are mostly conducted in homes, and therefore are called rural cottage-industries. Spinning and weaving cotton, wool and silk, mat and basket making, rattan work, lace making, pottery, rope weaving, oil pressing and making metal utensils are the most important.

¹⁸ *Ibid.*, p. 144.

¹⁹ *Ibid.*, p. 145.

In the urban areas, in addition to cottage-industries, there are manufactures conducted in modern factories. Since 1914-15, there has been considerable increase in the latter.²⁰ The Director of Industries makes the following observations regarding the growth of modern industries in the State: "The course of trade in cotton, wool and silk provides evidence of the remarkable development in these basic industries. The export of cotton yarn has doubled in value to Rs. 35 lakhs²¹ and that of piece-goods increased by about 16 times and now amounts to Rs. 80 lakhs. The woollen industry has firmly established itself and has at present a total trade of Rs. 40 lakhs to its credit. The export of silk has increased by 125 per cent during the last 15 years and amounts to Rs. 58 lakhs. The tanning industry has fully recovered from the post-war depression and the value of the leather exported amounts to Rs. 80 lakhs. The trade in oils and oil-seeds affords a noteworthy instance of the development of indigenous industrial enterprise. The area under groundnut has increased four times in ten years and amounts at present to 254,000 acres. Nearly half the seeds are crushed in the State in the oil expeller plants at Davangere, Bangalore and Mysore and an export trade of about Rs. 21 lakhs has been built up in oils and oil-cakes. The Government Sandal Oil Factory and the Bhadravati Iron Works together account for a total export trade of Rs. 32 lakhs." While the improvement in the above-named manufactures has been fair, there has been very little activity in other industries. The Director continues: "Excepting the manufacture of soaps and perhaps white-lead, there is no chemical industry worth the name, and the most common necessities of civilized life are being imported from abroad."

The Department of Industries, however, has been endeavouring very much to assist the public in building

²⁰ *Report of the Department of Industries and Commerce in Mysore, 1928-29, pp. 1, 2.*

²¹ One lakh of rupees is approximately equal to 33,000 dollars. A rupee is roughly one-third of a dollar.

up modern industries by offering technical advice and providing State-loans to the extent that finances permit.

The total capital invested in industrial concerns is about Rs. 240 lakhs of which Rs. 15 lakhs has been provided by the Government as loans. Industrial statistics for the year 1927 show that the value of raw materials used was Rs. 434 lakhs and that the value of manufactured articles was Rs. 566 lakhs.²²

In 1902, the State Government started an electric generating station at Sivasamudram for transforming into electric energy the mechanical energy of water fall of the Cauvery river. In the beginning, most of the power generated was supplied to the Kolar Gold Fields for working the mines. In recent years, other industrial concerns have been using the power. "Nearly 47 per cent of the power generated at Sivasamudram is now used outside the gold mines which were originally the only outlet and afforded the sole reason for the erection of this Hydro-Electric Installation."²³

The supply of cheap electric power has enabled small industries to grow up. Smaller towns and even villages are gradually getting the electric supply. For assisting the farmers, the Government sanctioned in 1927-28 a scheme for the supply of small electrically driven water-pumps on a hire-purchase system with concessions as regards the interest of the money due and remission of assessment when the dry lands are irrigated by this course. The cultivators are eagerly taking advantage of the scheme, and a number of pumps have been installed.

The Chief Electrical Engineer to the Government writes: ²⁴ "The electric power lines will extend about 12 miles in all directions from Bangalore, Mysore and other important towns and villages and will considerably

²² *Report of the Department of Industries in Mysore, 1929-30*, p. 2.

²³ *Ibid.*, 1928-29, p. 1.

²⁴ *Report of the Electrical Department in Mysore, 1927-28*, p. 14.

help the agriculturists in relieving their water difficulties for agricultural purposes and will be conducive to the greater prosperity of the raiyats (farmers). The power lines run for pumping installations will also be used for supplying power for lighting and small motor installations which will in due course bring in a considerable revenue to Government and materially help in improving the economic and domestic life of the areas so served. These pumping, lighting and industrial installations should be pushed on with the greatest energy possible."

The statistics of industrial production given above do not include the value of products of the large number of cottage-industries which do not use power. A full survey of cottage-industries has to be made.

Under the Director of Industries and Commerce is also the Department of Sericulture which has a Superintendent at its head and has its own staff. Mysore is well suited for silk production, as it has soil where mulberry grows splendidly and since its climate is congenial to the rearing of silk worms. The value of silk produced is over ten million rupees²⁵ annually. The industry is said to support 200,000 families in the State.

"Sericulture has an important place in the agricultural economy of the State. It employs that part of the labour of the home which is prevented by custom or feebleness from participating in the more strenuous work of the field, and also that part of the time of the raiyat which is left unfilled by the operation of the seasons."²⁶

(c) *Commerce.*

The value of the imports carried by road and rail in 1929-30 was estimated to be about 150 million rupees and the exports about 157 million rupees.²⁷

The imports are mainly rice, grains, sugar, salt, coal,

²⁵ *Agriculture in Mysore*, 1926, p. 89.

²⁶ *Ibid.*

²⁷ *Report of the Department of Industries in Mysore*, 1929-30, p. 15.

kerosene, cotton, cotton goods, silk piece-goods and machinery, while the exports are paddy, ragi, jaggery, grains, groundnuts, cotton goods, coffee, leather, sandal oil and spices.

Most of the trading concerns in the State are small. A few large factories and bigger commercial houses can employ but a few people trained in modern commercial practices and techniques. There are only a few modern type banks, and their transactions do not amount to much as compared with the banking houses in the West. Still, they afford considerable assistance to trade and commerce in the State and employ a few men trained in the different branches of commercial education useful in banks.

The Government has been doing its utmost to lay more railway lines wherever there is fair chance of their proving a commercial success. There are nearly 715 miles of railway lines in the State, of which 271.5 miles are worked by the Madras and Southern Mahratta Railway Company and the rest by the State Department of Railways. There is a good system of roads connecting the towns and larger villages; but the communications in the interior are inadequate. There are 550 post offices and 85 telegraph offices. All these facilities are helpful for the advancement of commerce.

E. BRIEF REVIEW OF THE EDUCATIONAL SYSTEM IN MYSORE.

(a) *Types of Schools in the General Education Scheme.*

The general school system of Mysore consists of three distinct stages, namely :

- (1) Primary schools of four years duration, where children are enrolled generally at the age of six years and go on to the fourth year class.
- (2) Middle schools of four years duration, where children who have completed the primary school instruction are admitted.
- (3) High schools of three years enrolling children who have successfully completed the middle school as determined by a pass in the Public

**Middle School Examination conducted by the
Department of Education.**

At the end of the high school studies, there is a public examination called the Secondary School Leaving Certificate (S.S.L.C.) Examination. A pupil who gets certain minima in the high school subjects in the public examination is entitled to admission to the colleges which are under the University of Mysore. The S.S.L.C. Examination is conducted by a Board called the Secondary School Leaving Certificate Board which is under the jurisdiction of the Department of Education.

There is no compulsory education regulation at present which could compel children of certain ages to remain in school. There is rapid elimination of children from class to class in the primary schools. There is also retardation of children in the lower classes.

The enrolment of children in the four classes of the primary boys'²⁸ schools on the 31st of March 1929, was as follows :—

Primary Class I	..	..	128,017
" " II	..	..	40,012
" " III	..	..	30,626
" " IV	..	..	20,334

It may be seen that of one hundred children enrolled in the first class, barely sixteen reach the fourth class. The other eighty-four are retarded or eliminated before they go up to the highest primary class. This rapid elimination is not peculiar to Mysore. It is an all-India feature. The Hartog Committee Report says :²⁹ "For British India as a whole the figures show that out of every hundred pupils (boys and girls) who were in Class I in 1922-23 only eighteen were reading in Class IV in 1925-26."

²⁸ *Report on Public Instruction in Mysore, 1928-29*, p. 42.

²⁹ *Interim Report of the Indian Statutory Commission*, "Review of the Growth of Education in British India," 1929, p. 47.

The result of this quick elimination of children in the earlier classes is that a large proportion of children who come into school do not attain literacy. All those children who leave school before completing the primary school instruction may be said to relapse into illiteracy.³⁰

In 1929-30, there were 6,455 primary schools of which 580 were meant exclusively for girls. In the boys' schools, however, girls are admitted. The trend is toward common schools for boys and girls in the primary stage. The number of boys in the primary schools was 203,134 and the number of girls was 59,138.

In the same year, there were 259 boys' middle schools with an enrolment of 25,970 and 26 girls' middle schools with an enrolment of 1,602. Very few girls attend boys' schools in the middle school stage.

There were, in 1929-30, 28 high schools for boys with an enrolment of 6,549, and 5 for girls with an enrolment of 306.

For affording some education higher than the primary, especially to the rural communities, two classes beyond the fourth primary class are attached to some four-year primary schools. The pupils of these two classes may appear for a public examination, called the Lower Secondary Examination, which is conducted by the State Department of Education. In 1929-30, there were 271 such boys' primary schools with 5,537 pupils in the lower secondary classes and 43 girls' primary schools with 555 pupils in the same classes. The trend, however, is in the direction of establishing four-year middle schools in such places as evince great interest in education.

There are also industrial and engineering schools, agricultural schools and commercial schools for imparting vocational education which are described at length in the succeeding three chapters.

(b) *Administration.*

The general schools, namely, primary, middle and high schools, are all under the control of the Department of

³⁰ *Ibid.*, p. 48.

Public Instruction which takes final orders from the State Government. The head of the Department is the Director of Public Instruction. Under him there are three Deputy Directors, one having jurisdiction over schools in the four districts of Mysore, Tumkur, Hassan and Chitaldoorg, a second having jurisdiction over schools in the other four districts, that is, Bangalore, Kadur, Shimoga and Kolar, and the third being in the office of the Director to help in general administration.

Next in rank come the District Educational Officers, one for each district. They have immediate control over all general schools in the districts except the high schools which are directly under the administrative charge of the first two Deputy Directors.

Next in rank to the District Educational Officers are the Assistant Inspectors who have jurisdiction over primary schools in one or two taluks as the case may be. There are altogether 39 Assistant Inspectors.

There are also 6 Assistant Inspectresses who inspect teaching in girls' primary schools and submit their reports to the Deputy Directors for necessary action. The Assistant Inspectresses have no administrative control. They have supervisory functions.

For organizing and supervising what may be called practical arts in middle and high schools, there are two officers. One is called the Superintendent of Practical Instruction who supervises industrial arts and the other is called Agricultural Inspector who supervises agricultural arts. Instruction in commercial arts in high schools is inspected by the Deputy Directors. An account of these courses is given in the next three chapters.

(c) *Curricula of Studies.*

In the primary schools, the subjects taught are vernacular, arithmetic, nature study and object lessons, drawing, kindergarten gifts and occupations, singing, geography, history and moral instruction.³¹

³¹ *The Mysore Educational Manual*, Vol. III, 1925, p. 28.

In the middle schools, the subjects dealt with are English, vernacular, elementary mathematics (arithmetic and geometry), Indian history, geography, drawing, moral instruction and one optional subject which may be Sanskrit, Persian, hygiene, or practical instruction. The time devoted to practical instruction is 6 periods a week from the second year class. The standard aimed at in practical instruction is that of practical arts. For the two Lower Secondary classes attached to some primary schools, the subjects are those prescribed in middle schools omitting English.

In the high schools, the subjects taught are English, a second language, elementary mathematics (arithmetic, algebra and geometry), histories of England and India, geography, elementary science (physics, chemistry and biology) and an optional subject which may be one of the following : (1) a classical language, (2) an additional course in mathematics, or (3) a vocational subject. The standard aimed at in the vocational subject is that of practical arts. The term "vocational" is not quite appropriate (*vide* Chapter V, E.).

CHAPTER II.

History of Trade and Industrial Education in Mysore.

A. THREE STAGES IN INDUSTRIAL EDUCATION.

(a) *First Stage, 1862-1900.*

THE beginning of trade and industrial education on modern lines through school agency was made as early as 1862 when the School of Engineering was established at Bangalore to train men for employment in the subordinate engineering service of the State.¹ In 1875 the School was raised to the College level and was required to give training in forestry and revenue survey besides engineering, thus training men for higher as well as subordinate services. But in 1880, its status was reduced to school level, and three years later (in 1883) it was abolished altogether. For the training of the lower officers of the Engineering Department, therefore, use had to be made thereafter of a technical school established by Arcot Narayanasami Mudaliar in the Bangalore Cantonment.

The Government was, however, not unmindful of the requirements of the State for the higher services of the technical and professional departments. It instituted a system of scholarships for deserving candidates to be trained for the State services in engineering, medicine and surgery in British Indian Colleges. The scholars from Mysore were very successful in their studies. In 1887 the Principal of the College of Science, Poona, wrote: "I can report most favourably of the Mysore scholars as a rule. They are generally at the top of their class and I have mentioned to Government in my annual report of 1885-86 the high estimation in which I held them."

In the meanwhile the foreign Christian Missions started industrial schools of artisan level standards to train

¹ *Progress of Education in the Mysore State, 1911-1916, Chapter VIII.*

orphan Christian boys in rudiments of carpentry and blacksmithy to afford them a means of livelihood. In 1889 the Government started an industrial school at Hassan, and the success of the move encouraged the establishment of a similar school three years later (1892) in Mysore. In the latter institution, the subjects taught were carpentry, pottery, rattan work (cane work) and masonry.

(b) *Second Stage, 1901-1910.*

A great forward step was, however, taken in 1901 when Sir P. N. Krishna Murti, the Dewan (*i.e.*, Chief Minister) of the State, addressed the Representative Assembly outlining the Government policy in the matter of industrial education.

He said: "The encouragement of industrial education, the establishment of special schools for weaving and other established industries in Mysore and the introduction of drawing or manual work in primary and secondary schools are other questions demanding early consideration.

"It is probable that literary education has drawn away too many of our young men from other important and necessary walks of life.....The most pressing of the reforms in this matter is to find out methods of imparting education which shall be of more practical use, not only to those who wish to begin as clerks in government services, or teachers in schools, but to all, according to their needs, who wish to engage themselves in the numerous professions and industries, so necessary for the prosperity of the country."

It is therefore clear that the State of Mysore was not unmindful of the needs of the present-day civilized life. That it should have made arrangements for technical training of her youths so early as 1862 and should have formulated a definite policy of industrial education in 1901 speaks highly of the foresight and wisdom of the administration.

A definite scheme of industrial education based on the policy adumbrated in 1901 was sanctioned in 1903.

Such industries and trades as were directly useful to the immediate wants of the general populace, as carpentry, weaving, silk-rearing, iron-work, rattan work, lacquer-work, etc., were to be taught to pupils who would profit by the instruction. Improved methods and techniques were to be adopted. While preference for admission should be given to those pupils whose traditional family vocation was, or was closely allied to, any of the above subjects, only such candidates were to be encouraged as possessed adequate intelligence to profit by the instruction in the modern methods. The main object was to train the intelligent among the artisan youths in modern techniques of trade and industry, so that they might be enabled to produce better quality goods in a more efficient manner.

Industrial Schools were thus started at Channiapatna, Sagar, Chitaldoorg, Chikmagalur and Shimoga; and such subjects were selected for instruction at each centre as had local demand. In addition, the policy of giving grant-in-aid to private institutions so as to encourage non-governmental effort was continued and strengthened. By 1910, there were 20 industrial schools under government and private agencies with an enrolment of 1,234 pupils.

(c) *Third Stage, 1910 to the Present Time.*

The third stage in the development of industrial education commenced in 1910 when the Dewan reviewed the position in the following words: "In the matter of industrial education, there is reason to think that in our industrial schools the training given could be made more systematic and thorough than it is at present, if a comprehensive programme of instruction were prepared and prescribed with graduated courses of instruction conceived on a definite plan. A committee consisting of experienced officers of the Public Works and Education Departments has been appointed to investigate and report upon this important matter."

The committee had the unique advantage of being presided over by Sir M. Visvesvaraya, one of the most

far-sighted patriots of India, whose experience as a Superintending Engineer in the Bombay Presidency and then as the Chief Engineer of the Mysore State was of undoubted value in making the most appropriate proposals for the advancement of industrial and commercial education in the State. The labours of the committee culminated in the establishment in 1913 of—

- (1) The Mechanical Engineering School at Bangalore ;
- (2) The Chamarajendra Technical Institute at Mysore (the industrial school started in that city in 1892 having been incorporated in the Institute) with branches for instruction in engineering, industries and commerce ;
- (3) The Government Commercial School at Bangalore ; and
- (4) Provision for the improvement of the other industrial schools in the State.

In 1906 Lord Minto, the then Viceroy of India, uttered these memorable words in the Indian Legislative Council:² "Technical education in other countries is growing apace.The success of modern industries and the preservation of indigenous industries is every day becoming more and more dependent on scientific and technical knowledge ; and if the resources of India are to be developed, such development must depend largely upon local enterprise and upon recognition of the absolute necessity of expert training." These sentiments greatly influenced the work of the Visvesvaraya Committee and are in no small measure responsible for the comprehensive proposals they made for enlarging the scope of industrial education in the State.

Since 1913 there has been steady improvement in the equipment, teaching, syllabuses, etc., of the industrial schools and the engineering school.

The civil engineering section of the Chamarajendra Technical Institute, Mysore, was transferred to the

² *Progress of Education in the Mysore State, 1911-1916, Chapter VIII.*

Mechanical Engineering School, Bangalore, the name of the latter being changed to "The School of Engineering." The Mysore institution was thus completely made into one for the promotion of training in arts and crafts.

B. INDUSTRIAL SCHOOLS.

(a) *The Chamarajendra Technical Institute, Mysore.*

This Institute at Mysore had 224 full-time students in 1930³ with an average daily attendance of 180, the subjects taught being cabinet-making, smithy and fitters work, rattan work, inlaying, engraving and enamelling, metal work, sandalwood carving, and modelling.

There were also 43 students of the Government High Schools receiving instruction in fitters work and machine shop for four hours a week in connection with the high school vocational education scheme.

A special feature of the Institute is that an Industrial Workshop has been attached to it where mostly former students of the institution are engaged in producing on a commercial scale articles of the arts and crafts. The products have been much eulogized both in and outside the State. The Director of Industries in Mysore remarks :⁴ "The workshop section of the Institute is increasing in popularity and the products have been commended for their artistic excellence and sound workmanship. The Rosewood furniture made in the Workshop won much appreciation and orders have been obtained from Delhi, Northern India. His Excellency the Viceroy was pleased to obtain some furniture from the Institute for the Viceregal Household at Delhi." The encouragement of the public has been so great that the Institute published for the first time in 1930 catalogues of rattan furniture and inlay work and made arrangements for the early publication of a catalogue of rosewood furniture. All this speaks highly of the efficiency of instruction imparted in the Institute.

³ *Administration Report of the Department of Industries and Commerce of the Mysore State for 1929-30*, p. 12.

⁴ *Ibid.*, p. 12.

Further light on the efficiency of instruction is thrown by the results of public examination. "Twenty-one students of the Arts section appeared for the Madras Government Technical Examination held in November 1928 and all of them came out successful, ten being placed in the first class."⁵

"Twenty-eight students of the Arts section appeared for the Madras Technical Examination and 16 were declared successful and 8 passed in the first class."⁶

The Institute is under the administrative charge of the Director of Industries and is in the immediate charge of a qualified Superintendent.

(b) *The School of Engineering, Bangalore.*

The Mechanical Engineering School started in 1913 on the recommendation of the Visvesvaraya Committee has developed since into a School of Engineering with three departments,⁷ namely, (1) Mechanical Engineering, (2) Electrical Engineering, and (3) Civil Engineering, the standard aimed at being less than university grade. The training in mechanical and electrical engineering is divided into higher and lower grades, the minimum qualification for admission to the higher being high school graduation, and that for the lower graduation from middle school. The duration of training for the higher is about 4 years and that for lower 2 to 3 years.

There is a Committee for the management of the school on which are represented the industrial and commercial interests, the administrative control, however, being vested in the Director of Public Instruction. The Superintendent of the school is the Secretary of the committee. The present incumbent is an engineering graduate of the University of Leeds, England.

The final examinations are conducted by a Technical Examinations Board specially appointed by the

⁵ *Administration Report of the Department of Industries and Commerce of the Mysore State for 1928-29*, p. 12.

⁶ *Ibid.*, 1929-30, p. 12.

⁷ *Report on Public Instruction in Mysore for 1929-30*, p. 47.

Government of the State from among the experts under government employ in the various technical departments. The results of the examinations held in April 1930 show that the teaching is fairly efficient.

	Number Appeared.	Number Passed.
Mechanical Engineering (Higher) ..	10	8
Mechanical Engineering (Lower) ..	10	9
Electrical Engineering (Higher) ..	30	21
Electrical Engineering (Lower) ..	18	15
Civil Engineering	27	25

The school is gaining in popularity. There were 133 pupils on the rolls in 1917,⁸ 160 in 1922 and 285 in 1930. That the traditional aversion of the socially higher classes to manual work is quickly breaking down is shown by the fact that more than half the strength was made up of boys of these communities.

The staff of the school is being augmented as needs arise. "Owing to the expansion of the school consequent on the increase in the number of students admitted to the several departments and the congestion and pressure of work, especially in the workshop sections, Government have sanctioned the appointment of a Workshop Assistant in the school."⁹

While under training, the scholars are taken on excursions to engineering works and industrial plants in and outside the State. In 1929-30, the Final Year Higher Grade Mechanical and Electrical Engineering students visited works and plants at Bhadravati, Poona, Bombay and Hyderabad; the Final Year Lower Grade students visited plants at Kolar Gold Fields, Mettur, Trichinopoly and Madras; and the Civil Engineering students went to Madras, Nellore, Bezwada, Rajahmundry and Hampi.

After the courses in the school are completed, students are apprenticed for about a year in industrial concerns,

⁸ *Review of the Progress of Education in the Mysore State during the period 1916-17 to 1921-22*, p. 100.

⁹ *Report on Public Instruction in Mysore for 1928-29*, p. 49.

Engineering Workshops, and in Railway Workshops of the State and in British India.

The School of Engineering conducts classes in vocational subjects for students of Government High Schools in the Bangalore City in two subjects : Electric Wiring and Fitting, and Pattern making and Foundry work, the pupils having to attend 4 hours a week during school days. In 1929-30 there were 35 scholars taking the first subject and 27 the second.

(c) *The Weaving School, Bangalore.*

The Government Weaving Factory was established by the State Industries Department for demonstration and experimental purposes and to carry out research. "It is equipped with 32 looms, of which 6 are power, 11 frame looms and the rest are throw and fly shuttle looms. . . . A variety of goods were manufactured at the Factory. The main lines were silk sarees utilizing Mysore Filature silk and cotton and artificial silk goods and coatings made out of waste silk. In the experimental section, the manufacture of silk twisting machine for work in conjunction with the Mysore Domestic Basin was completed and the manufacture of an improved hand-loom in which the treadles and picking arrangements could be operated by power taken on hand."¹⁰

Recently, a training section was opened. The Director reports: "The training section established purely on a tentative basis two years ago has filled a real want. Thirty-two students were under training at the close of the year in the two courses of instruction, 25 pupils in the higher or the Diploma course and 7 in the Artisan course. The students come from all parts of the State and some of them are in receipt of scholarships sanctioned by Local Bodies."¹¹

The great advantage of attaching the school to the Factory is that the pupils obtain practical training under

¹⁰ *Administration Report of the Department of Industries and Commerce for 1928-29*, p. 7.

¹¹ *Ibid.*, 1929-30, p. 8.

regular trade conditions and are able to interest themselves and participate in the demonstration and experimental work. They will carry with them knowledge of working with improved implements and appliances and will be in course of time pioneers in improving the hand-loom industry in the State.

The Factory and the School are under the Department of Industries. The Superintendent of the School is a graduate of the Victoria Jubilee Technical Institute of Bombay and is therefore well-qualified to teach the technique of the trade. The Superintendent of the Factory, who is a man of great experience, supplies the supervision needed.

(d) *The Artisan Type Industrial Schools.*

The four Government Industrial Schools at the district headquarters, Hassan, Chikmagalur, Shimoga and Chitaldoorg, give training in carpentry, smithy and rattan work at the artisan level to fit pupils to undertake independent work as artisans in their localities on improved lines. There are three more government industrial schools imparting trade instruction suited to the locality, one at Channapatna for instruction in lacquer and wood-carving, another at Dodballapur for weaving and a third at Sagar for sandalwood carving.

The period of training was extended from two to three years in 1928-29 so as to make the instruction more thorough and efficient. A noticeable feature of these institutions is that most of the pupils that go there are illiterate children of artisans, and so the schools devote an hour to two hours out of 6 to 7 working hours a day for imparting literacy and a knowledge of numbers to them.

The artisan class has been gradually appreciating the importance of organized technical training on modern lines for their children and so the tendency is a progressive accretion of strength to these schools. The building accommodation is found to be inadequate, though additions have been made in recent years. It is praiseworthy that the District Board of Hassan made a generous

grant of money and the Hassan Municipality gave a site free of cost for their local school building, and it is expected that the other Local Boards may emulate them. To make the instruction really worth while to the artisans, equipment is being augmented by purchasing modern appliances and tools.

To enable senior students to have some training above the artisan level, workshops with power driven lathes, grinder, drill, etc., are being organized as funds permit. Channapatna, Hassan, Shimoga and Chikmagalur Industrial Schools have been already so provided. Chitaldoorg and Sagar Schools will be equipped early.¹²

Side by side with the improvement of building accommodation and equipment, better technical training of teachers is also going apace and revision of scales of pay to them is also being considered. When the financial conditions of the State improve, Government is sure to pay its earnest attention to all reasonable demands of these schools, because it is the recognized policy of the State to do everything possible to enhance the vocational competency of the artisan class.

There are five industrial schools, managed by private agencies, receiving grants from the Government through the Industries Department.

(1) The S. L. N. Charities Institute, Bangalore, teaches weaving, carpentry, rattan work, lacquerware, and tailoring. (2) The Wesleyan Mission Industrial School, Tumkur, deals with carpentry, rattan, blacksmithy and machine work. (3) The M. E. Mission School, Kolar, teaches carpentry. (4) The Industrial School at Melkote imparts instruction in carpentry, weaving and drawing. (5) The Weaving Institute at Hole-Narasipur has carpentry and weaving courses.

All these schools have been making admirable efforts to train the children of artisans to earn a decent living.

¹² *Administration Report of the Department of Industries and Commerce for 1929-30*, p. 13.

(e) *Home Industries Classes for Women.*

The Department of Industries has organized Home Industries Classes mainly with a view to giving training in suitable subsidiary occupations pertaining to household articles and utilities to poor women and girls to enable them to supplement their family income by working during their leisure time at home. There are six classes in the various localities in the Bangalore City and two in the Mysore City, with a total enrolment of 242 pupils. Sewing, knitting, embroidery, spinning, tailoring, rattan work, weaving, printing on cloth, and dyeing are among the important subjects of instruction. Most of the teachers are local ; but for embroidery, trained instructors have been entertained from Surat in the Bombay Presidency.

C. PRACTICAL INSTRUCTION IN PRIMARY AND MIDDLE SCHOOLS.

In recent years in India, criticism has been levelled against the too literary character of instruction imparted in the middle and high schools, and representations have been particularly made in Mysore by the people to the Department of Education and the Government that some amount of manual training should be included in the curricula of studies of these schools. Accordingly practical instruction has been made optional with Sanskrit or Persian or Hygiene or Elementary Science which are allotted 4 periods out of 33 a week.¹³ The Education Department has been making provision for instruction in industrial subjects and in agriculture gradually as funds are made available by the Government. The object of the Government in sanctioning the classes is not so much to impart full-fledged vocational education as to give a certain amount of vocational bias to the pupils. The Director of Public Instruction remarks :¹⁴ "These classes have, as a whole, done good work and have been of use to the pupils in giving them a vocational bent."

¹³ *Mysore Educational Manual*, Vol. III, 1925, p. 86.

¹⁴ *Report on Public Instruction in Mysore*, 1927-28. p. 41.

Though the general policy of the Education Department is not to start practical instruction of a specialized type like carpentry, blacksmithy, etc., in primary schools, they have encouraged it in primary schools meant specially for the Depressed Classes, called the Adikarnatakas, in Mysore. The reason is these pupils are found to be generally older than the pupils of other communities at the same level, and as they, being children of very poor parents, require some training to enter upon a vocation immediately upon their leaving school.

In 1929-30, there were 71 practical instruction classes¹⁵ in industrial subjects as stated below :—

Subject			Number of Classes.
Carpentry	..	..	13
Tailoring	..	..	9
Brass Work	..	..	2
Lacquer Work	..	..	2
Blacksmithy	..	..	4
Cotton Weaving	..	..	17
Shoemaking	..	..	8
Mat Weaving	..	..	3
Rattan Work	..	..	3
Charka Spinning	..	..	10
Total	..	..	<hr/>71 <hr/>

The classes in Agriculture and Sericulture are discussed in Chapter III.

Of the 71 industrial classes, 44 were attached to the Boys' Middle Schools, 8 to Girls' Middle Schools, and 19 to Adikarnataka Primary Schools. One hundred and sixty-eight pupils appeared for the Middle School Public Examination with practical instruction as an optional subject, and the Director of Public Instruction reports :¹⁶ "It

¹⁵ *Report on Public Instruction in Mysore, 1929-30*, p. 38.

¹⁶ *Ibid.*, 1929-30, p. 39.

is evident from the good results obtained that pupils are evincing a great interest in practical work.

"The work of the classes has progressed well and their product has found a ready sale.

"The Department also participated in the Educational Exhibition held in Madras in December 1929 under the auspices of the All-India Federation of Teachers Associations, and exhibits mostly from Practical Instruction classes and Vocational classes in weaving were sent in charge of Mr. David A. Nagavkar, Superintendent of Practical Instruction Classes. It is reported that some of the distinguished visitors and educationists were greatly interested to know that Practical Instruction subjects were offered by pupils as optionals for the Middle School Examination in the Mysore State. The Mysore Exhibits won a prize in the shape of a shield.

"The making of Practical Instruction an examination subject has greatly systematized the work in Practical Instruction classes and there is consequently less waste of material, as students devote better attention to the work."

The practical instruction is commenced in the second year of the middle school in the general schools, since experience shows that pupils will have attained fairly good physical maturity to cope with the exertion needed to do industrial work. Normally a pupil would be 12 to 13 years of age in this class. The instruction is continued in the third and fourth year classes at the end of which the Middle School Public Examination is held for which pupils have to present this subject along with the academic subjects.

Teachers.—The teachers are generally selected from among those classes who have the particular trade as a traditional family occupation, preference being given to those who hold certificates of having completed courses in particular subjects in the Industrial, Engineering or Weaving Schools in the State or outside. A weaving instructor would be a weaver who has undergone a full weaving course in the Weaving School attached to the

Government Weaving Factory, Bangalore; a carpentry instructor would be a carpenter trained in the Chamarajendra Technical Institute, Mysore, or in any other recognized Industrial School in or outside the State, and who holds a certificate to that effect; and so on. For some subjects like mat-weaving, an instructor has to be selected from the artisan class without his having undergone any specific training in a recognized school for mat-weaving because there is no such institution yet established; all his training would be that which he has acquired at home from his people who have followed this occupation for generations. There are, however, teachers who have not had the particular trade they teach as their family occupation but who are highly technically qualified to teach it because of their training in a school for that trade. Thus it is seen that there is no one definite policy in recruiting these practical instruction teachers but that each recruit has to be entertained according to his individual merit, the best among the available candidates being selected for any particular position.

Regarding the academic qualifications of these instructors, too, there is a wide range of variability, anywhere from possessing ability to read, write and figure, to as much as completion of the high school course being commonplace. In a country where compulsory education up to a certain age (as is the case in America, England, Germany and Japan) is not in vogue, it is not usually possible to have practical instruction teachers that possess both high academic standing and technical qualifications. But the trend, however, is in the direction of recruiting more and more cultured people to these posts.

While most teachers of practical instruction are fairly competent in the trade they profess to teach and a good proportion of them have fair academic standing, none of them has any training in teaching. That these teachers should have courses in the methods of teaching industrial subjects, educational and vocational psychology, principles of teaching, class management, etc., has not yet been recognized. While no doubt high proficiency in the trade subject is a paramount factor in their qualifications, a small amount of training in educational subjects would

undoubtedly widen their mental horizon, enhance their interest in the educational aspect of practical instruction and increase their teaching efficiency.

Inspection.—The organization and supervision of practical instruction subjects other than those relating to agriculture are entrusted to an officer called the Superintendent of Practical Instruction who is at present a Licentiate of Mechanical Engineering and has vast experience in organizing such classes in the State and in some places outside.

The Superintendent is directly responsible to the Director of Public Instruction and has his office in that of the latter. His schemes, itinerary and programmes are submitted to the Director for approval. In consultation with the District Educational Officers who are immediately responsible for the efficient organization and maintenance of middle schools and on the final approval of the Director, the Superintendent organizes the classes by providing equipment, recommending suitable teachers, etc., in those schools where the opening of such classes is sanctioned by the Government.

The Superintendent inspects teaching, scrutinizes equipment and brings to light all those deficiencies that have to be set right. His reports are sent to the District Educational Officers for taking such administrative action as lies within their jurisdiction and for making such recommendations to the Director as they think fit depending on their own experience and local knowledge. The orders of the Director are final. The Superintendent holds conferences with the teachers during inspection time, gives them instructions for effecting improvements in teaching, guiding pupils in their work, etc., and helps them in solving difficulties that they might meet in the discharge of their technical duties. He is thus a teacher trainer on the job.

D. VOCATIONAL EDUCATION IN HIGH SCHOOLS.

With a view to giving a somewhat practical turn to high school education—a bias towards commercial and industrial careers—subjects like (1) Commercial Practice

and Geography, Book-keeping and Banking, (2) Shorthand and Typewriting, (3) Precis Writing and Indexing, (4) Agriculture, and (5) Industries were formerly included in the optional subjects to be taken by boys for the public examination at the end of the three-year high school course called the "Secondary School Leaving Certificate" (S.S.L.C.) examination.¹⁷ For girls, two out of the three subjects (1) Needle-work and Dressmaking, (2) Lace-work, and (3) Domestic Economy, were made compulsory.

Due, however, to want of funds, provision was made only for the teaching of commercial subjects for boys, and that too in the more important high schools, instruction in agriculture and industries being postponed. In the girls' schools, all the three subjects were taught with what provision for practical work could be made under the circumstances—and according to the choice made by the pupils.

But a real forward step in practical instruction was taken when the Government appointed in 1922 a special committee consisting of 22 members with the Inspector-General of Education (now called Director of Public Instruction) as Chairman. On this committee were represented experienced officers of the Education Department, some notable faculty members of the Mysore University, and representative non-official gentlemen who were interested in the educational advancement in the State.

Reviewing the report of the Committee, the Government observed: "The Committee's report, dated 14th July 1923, was received by the Government on the 18th idem. And it was published in the *Mysore Gazette* on the 23rd August 1923 and ample time given to persons interested in the subject to give their opinions. The opinions of the Secondary School Leaving Certificate Board and the University Council were also called for. The report received due attention from all the newspapers within the State. Public meetings were held in Tumkur and Bangalore and suggestions were received from a number of

¹⁷ *The Mysore Educational Manual*, Vol. III, p. 94.

individuals including certain educationists. The majority of the members of the Secondary School Leaving Certificate Board have approved in full of the recommendations, while a few have agreed, subject to dissent on certain points. At the request of the Senate of the Mysore University the proposals of the Committee were also referred to that body for opinion with a view to the co-ordination of the Secondary School Leaving Certificate and the University Courses, and their resolutions passed at a special meeting held on the 4th and 5th January 1924 have also been received by the Government."¹⁸

The above extract from the Government proceedings shows how anxious the State Government has been to enlist the co-operation of varied interests in education and how responsive it is to the opinions both of the lay public and the experts in the field.

The resolution of the Committee of Twenty-Two ran thus: "That the study of a Technical or Industrial subject be also made obligatory on all the candidates in the High School course, but that this subject be not required to be brought up for the Public Examination, although attendance in respect of it should be compulsory and should count for term similar to attendance in respect of the other subjects, and that a list of Industrial and Technical subjects be drawn up for boys and girls separately and pupils permitted to take up any one of them according to their choice."

The Senate of the Mysore University, however, said that they did not propose to make the vocational subject obligatory for all students but recommended that when a vocational subject is selected by a pupil he should present it at the public examination.

The Government in their final orders agreed with the recommendation of the Senate as being in consonance with their policy of providing for *optional* technical courses in high schools. So now the so-called "vocational subject" is optional with a classical language or an additional course in mathematics.

¹⁸ *The Mysore Educational Manual*, Vol. III, p. 100.

The subjects finally approved for vocational courses are: (1) Book-keeping and Commercial Accounts, (2) Business Correspondence, Simple Precis and Typewriting, (3) Shorthand and Typewriting, (4) Mensuration and Survey with Draftsmanship, (5) Printing and Bookbinding, (6) Electric Wiring and Fitting, (7) Smithy, (8) Mechanical Shop and Fitters' Work, (9) Weaving, (10) Agriculture with Practical Field and Farm Work, (11) Prints and Engravings, (12) Pharmacy, (13) Drawing, (14) Needle Work, Embroidery and Dressmaking, and (15) Domestic Science.

The last three subjects are meant specially for girls.

Provision has been made for the teaching of most of these subjects in some one or other of the high schools according to the needs of the locality, the facilities available there and the availability of funds for furthering the programme. Agriculture, prints and engraving, and pharmacy are the only subjects not yet taken up anywhere.

The Working of the Scheme.

The new S. S. L. C. rules came into operation immediately after the final orders of the Government were passed. In 1926, eleven high schools were teaching commercial subjects, two mensuration with survey and draftsmanship, one electric wiring, one pattern making and foundry work, one printing and book-binding, one mechanical shop and fitters' work and three weaving.¹⁹

In their review of the educational progress in the State in 1926-27, the Government observed: "Extension of the scheme of vocational instruction in high schools has been under the consideration of the Government."²⁰

In 1928, book-keeping, and printing and book-binding were introduced in two high schools.

As the scheme was in operation, certain deficiencies in the syllabuses of vocational subjects were observed. Committees of experts in each were nominated to scrutinize them and to suggest improvements. Accordingly

¹⁹ *Report on Public Instruction in Mysore, 1926-27*, p. 33.

²⁰ *Ibid.*, p. 2.

the syllabuses were examined and recast. The revised syllabuses were approved²¹ by the Government in 1929-30 and are now in operation.

There is a feeling that the time devoted to vocational subjects is not adequate. The Director of Public Instruction brought this matter to the knowledge of the Government in 1928. "The time now devoted to the vocational subjects, *viz.*, four periods a week (for both theory and practice) is felt by some to be very inadequate and that the amount of training now received by a candidate in the vocational subjects during the high school course is not such as to enable him to practise the vocation independently. The same criticism is directed also against the teaching of vocational subjects in practical instruction classes."²²

The Government requested the Director to examine the position and submit proposals for improving vocational instruction both in high and middle schools, "bearing in mind the difference in aim between vocational education in general schools and that in technical and industrial schools. The former is only intended to give a vocational bias to general education to afford pupils to discover their aptitudes and in some cases to provide a general preparation for specialized courses in technical and industrial schools."²³ In other words, the object of this instruction was fairly defined as furnishing opportunities for "try out" or "exploratory" courses and for pre-vocational training rather than affording complete preparation for a vocation.

Here then is an attempt to lay down the objectives of the so-called vocational education in high schools and practical instruction in middle schools, and to contrast these objectives with those of instruction in full-fledged industrial schools. Considered from the point of view of affording bias towards a vocation, these courses cannot

²¹ *Report on Public Instruction in Mysore, 1929-30*, p. 26.

²² *Ibid.*, 1927-28, p. 28.

²³ *Ibid.*, p. 2.

strictly be called vocational. A more suitable title will be evolved in a later section.

Almost similar purposes are attributed to practical arts in the junior high schools in the United States. Davis states: ²⁴ "The leading purposes of the junior high school courses in Practical Arts are three in number :

(1) To give to every boy and girl in the school some appreciation of the kinds and nature of the practical activities that go to make up the industrial and commercial world around them, and particularly for the girls, to acquaint them with the ideals and practices which contribute to the making of attractive, hygienic and well-managed homes.

(2) To enable pupils, by means of try-out courses, to discover their interests, aptitudes, and ambitions with respect to certain vocations, and to give them training in the ordinary practical affairs of home, garage, garden, shop and playground.

(3) To give specific training in particular vocations to pupils who show special aptitudes for such vocations ; those who are unable to profit by other courses ; and those who, because of untoward circumstances, are unable to continue in school beyond the junior high school years."

Almost similar objectives in the teaching of manual arts have been listed by Koos :²⁵

- " (1) to develop skill in the use of common tools ;
- (2) to afford industrial information and social intelligence ;
- (3) to foster appreciation of good materials and workmanship ;
- (4) to further intelligent choices of life occupations ;
- (5) to inculcate worthy personal traits and attitudes ; and
- (6) to provide a measure of specific occupational training."

²⁴ Colvin Olin Davis, *Junior High School Education*, World Book Co., 1925, p. 230.

²⁵ Leonard V. Koos, *The American Secondary School*, Ginn & Co., New York, 1927, pp. 470-71.

The scheme of practical instruction in Mysore being new, there has not been sufficient time to evolve clear-cut objectives; yet the purposes held in view show that the trend is in the proper direction. The Government have asked the Director, in making his proposals, to bear "in mind the difference in aim between vocational education in general schools and that in technical and industrial schools." This distinction is very necessary. Snedden made it very clear with respect to American schools when he wrote:²⁶ "It is clearly possible to teach in schools an almost endless variety of practical processes and technical knowledge.... But such teaching may have, in any given case, as its controlling objective, to prepare the youth for effective participation in a vocational sense in the occupation upon which the specific teaching is based; or quite otherwise, the objective may be simply to provide for the acquisition of general experience, for participation in wholesome activity of a non-vocational (possibly amateur) character, and for the development of interests, appreciations, and tasks as are stimulated by such activity. The first is properly a vocational objective; the second, no less certainly, a general or liberal objective. There is no satisfactory evidence that, except in the case of rare individuals, both can be ministered to by the same form of school practice, method or spirit of work."

In Mysore the people at large have not clearly grasped the significance of teaching industrial and commercial subjects as part of a liberal education and as providing a certain amount of vocational guidance by way of giving a practical turn to education rather than training pupils to be ready for entering on an occupation immediately after they pass the high school examination. This aspect of the question will be treated in the next chapter.

E. EXTENSION EDUCATION IN SPINNING AND WEAVING.

In recent years there have been powerful attempts made in India to revive and resuscitate hand-spinning and

²⁶ D. Snedden, *Vocational Education*, p. 472.

weaving with a view to giving the poor agricultural population a by-occupation to be carried on during their leisure time in their own cottages. Hand spinning and weaving have been carried on in India from time immemorial, and India used to export her cotton goods to European countries even as recently as the early part of the last century. But on account of various causes, not the least among which is the rise of the power machine in Europe and the consequent dumping of cheap mill cloth principally from England, the indigenous industry was greatly hit. "India ceased to export manufactured cotton goods to Europe early in the nineteenth century. Henceforward Lancashire goods competed more and more in the Far Eastern and Indian markets, and by the end of the nineteenth century the hand-spinning of cotton in India had practically ceased, whilst hand-weaving was depressed. Since then, owing mainly to the work of the Provincial Departments of Industries (which in some areas have succeeded in introducing improved hand-loom), the output of the cotton hand-loom industry has hardly, if at all, diminished, and in certain areas has actually increased, as hand-weavers now specialize (and have obtained a practical monopoly) in the cheapest, coarsest cloths, and in cloths of fine quality and varied design (which are therefore pre-eminently suitable for small-scale production)."²⁷

That the hand-loom industry is still an important factor in India's industrial position is shown by the statistics that have been gathered about it. "It was calculated in 1921 that the average estimated production from hand-loom for the 5 years ending in 1920 was 978.7 million yards, the total annual cloth consumption of India being 3,803.7 million yards. Recent figures quoted by the Director of Industries show that out of a total Indian consumption of 4,700 million yards, the hand-loom supply 1,200 million yards. It would thus appear that over 25 per cent of the demand is met from hand-loom."²⁸

²⁷ Vera Anstey, *The Economic Development of India*, Longmans, Green & Co., 1929, p. 208.

²⁸ J. N. Gupta, *The Foundations of National Progress*, The Elm Press, Calcutta, 1927, p. 199.

(a) *Extension Education in Weaving.*

The Department of Industries in Mysore has been giving a lead to the weaving industry in the districts by a system of extension education taken to the very doors of the weavers. "Parties for the demonstration of the utility of improved weaving appliances were first appointed during the middle of the year 1927-28. Before the end of that year six demonstration parties had been sanctioned. There are at present eight demonstration parties, one for each district. The party consists of a weaving demonstrator who has either passed out of the Victoria Jubilee Technical Institute, Bombay, or has obtained knowledge of the higher technique of weaving in an equally well-known institution, a maistry²⁹ with thorough practical experience of hand-loom weaving and a peon. The party has a stock of improved weaving appliances which have been passed by the Department for general use, and is required to visit important weaving centres in each district and to set up and demonstrate the utility of the appliances available with it. The total value of the appliances sold by the Demonstration parties during the year was Rs. 5,618. The work of the demonstrators is not confined merely to the sale of improved appliances. They help in the opening and working of weaving schools and in the erection of power-looms wherever electric energy is available, and give designs for the manufacture of suitable cloth that may find a ready demand...

"The effect of the establishment of a small party of expert men capable of giving just the advice and assistance needed by the hand-loom weaver has helped to revitalise his ancient industry as evidenced by the ready adoption of improved tools and appliances and will, in time, enable the cottage worker to bring out all the artistic resources inherent in the hand-loom."³⁰

This extension education given to the weavers is already having wonderful effect in motivating them to

²⁹ Maistry—Headman of workers.

³⁰ *Report of the Department of Industries and Commerce, Mysore, 1929-30*, pp. 8-9.

use improved looms, and to use more efficient appliances. Electric energy is being gradually supplied to the smaller towns and villages at a cheap rate for lighting and power purposes ; and this has made it possible for the richer weavers to install power-looms, thus increasing production. The weavers are slowly realizing the importance and utility of adopting modern devices and methods. The Demonstration parties are ever vigilant to offer instruction, advice and any other help needed by the weavers. Of course, one party in a district is very inadequate to reach the highly scattered and numerous population ; but the point to be noted is that a beginning has been made and the organization is hardly three years old. With increased funds sanctioned by the Government and greater demand made by weavers individually and through their organizations, more staff will be appointed to extend the scheme.

(b) *Extension Education in Spinning.*

The Indian peasant is a poor man. Ordinarily his agricultural activities occupy only half the time in a year. During the rest of the time, he is idle if he has no subsidiary industry. In ancient times, spinning and weaving were the by-occupations which engaged the working members of the family during the off-season from agriculture and thus enabled them to have additional income for the family. But on account of the competition of the mill-spun yarn and want of any organization among the peasants themselves to offset the effects of this competition, cotton-spinning practically vanished as a by-occupation among them.

In recent years, on account of the tremendous propaganda done by Mahatma Gandhi and his band of ardent followers in favour of giving back to the poor farmer his hand-spinning industry, the old spinning-wheels called ' Charkas ' are now plying in many a home. Objections have been no doubt raised by many people in India that this occupation is economically unsound, that hand-spinning is unable to compete with the cheap factory-made yarn, and that the income earned by this slow hand process is too meagre for the effort and time spent. These

arguments have been repeatedly met by Gandhi and some people, at any rate, have been captivated by his arguments. He says:³¹ "In order to understand properly what the Home-Spinning movement means one must first have a clear idea of all that it does not mean. For instance, hand-spinning does not compete with, in order to displace, any existing type of industry; it does not aim at withdrawing a single able-bodied person who can otherwise find a more remunerative occupation from his work. To compare, therefore, the remuneration that hand-spinning offers with the earnings offered by any other occupation, to measure its economic value in terms of returns and dividends, can only serve to mislead. In a word, hand-spinning does not claim to satisfy the economics of 'getting rich'. The sole claim on its behalf is that it alone offers an immediate, practicable, and permanent solution of the problem of problems that confronts India—namely, the enforced idleness for nearly six months in the year of an overwhelming majority of India's population, owing to lack of a suitable occupation supplementary to agriculture and the chronic starvation of the masses that results therefrom. There would be no place for the spinning-wheel in the national life of India, comparatively small as the remuneration that can be derived from it is, if these two factors were not there. A proper appraisal of the economic value of home-spinning would therefore involve a consideration of the almost incredible poverty of the Indian masses, and partly of its causes, inasmuch as the remedy is to be sought in the removal of the causes."

Mahatma Gandhi then goes on to describe what was the state of the country when there were voluntary organizations to help spinners in former times. "There are Dr. Buchanan's and Montgomery Martin's surveys of Northern India during the first quarter of the nineteenth century to bear eloquent testimony to the villages and towns smiling with plenty, to the vast voluntary organization that was at work in every town and village, keeping

³¹ C. F. Andrews, *Mahatma Gandhi's Ideas*, The Macmillan Co., New York, 1930, pp. 147-48.

millions of spinners, tens of thousands of weavers, and thousands of dyers, bleachers, carpenters, smiths, and smaller handicraftsmen busy throughout the districts all the year round, and bringing millions of rupees and distributing them equitably in Bihar, Bengal, U. P. and Mysore."

There is weighty opinion to show that the cultivators now have much time at their disposal which they idle away. The Royal Commission on Agriculture writes:³² "...a prominent feature of Indian agriculture is the amount of spare time which it leaves to the cultivator. This varies very greatly according to the local agricultural conditions, but it may be assumed, as a broad generalization, that by far the greater number of cultivators have at least from two to four months absolute leisure in the year. The methods of bringing within the cultivator's reach industrial opportunities to fill up his spare time must vary with local circumstances....As agriculture over the greater part of India cannot offer employment for the whole of the year, the problem...is to suggest lines of work which can suitably be undertaken by the cultivator or his family in their spare time and without detriment to the cultivation of their land."

The Indian Central Banking Enquiry Committee state:³³ "We...hold that by far the greater number of agriculturists in India have the time at their disposal to pursue profitably one or other of the small village and domestic industries with a view to add to the income from agriculture."

To quote yet another writer on India:³⁴ "From this excessive pressure of population on the land arises the great evil of almost universal under-employment. Except at special seasons, there is insufficient work to

³² *Royal Commission on Agriculture in India, Report, 1928*, p. 566.

³³ *The Indian Central Banking Enquiry Committee, 1931, Majority Report. Part I*, p. 239.

³⁴ Sir John Cumming, *Modern India, 1931*, Oxford University Press, p. 253.

employ those dependent upon these small holdings for more than (perhaps) one-third of their time.... One argument for the revival of hand-spinning is that it would be worth while, however small the return to labour expended, as it could be done in otherwise wasted time."

In Mysore, too, the farmers have much time in the year when they have nothing to do. The problem of demonstrating to them how they can utilize this spare time to add a little to their meagre incomes from land could only be approached taking into consideration the sociological and industrial traditions of the people. Spinning and weaving were their hereditary by-occupations to agriculture. Weaving is being followed to a greater or less extent. Spinning, however, became extinct as a by-industry. The Government of Mysore, with its characteristic insight and adroitness, found in the spinning-wheel movement of Mahatma Gandhi a means and an opportunity to attempt to revive this ancient industry and afford opportunity to the farmer to earn an additional income, however small. So, as an experimental measure, they sanctioned the organization by the Department of Industries of a spinning centre at Badanval, Mysore District, to demonstrate to the people the utility of resuscitating hand-spinning. The assistance of a Special Organizer lent by the All-India Spinners' Association was availed of in the initial stages to make arrangements and in November 1927 the work was started.

The old spinning-wheels, which had been discarded by the rural people because they did not know a way to get a fair return for their labour in competition with mill-spun yarn, have been now plying in their homes. New and improved wheels are supplied at reasonable cost to those who wish to spin. Spinning demonstrators are going round the surrounding villages to teach people efficient methods of spinning. The hand-spun yarn is purchased at a fair price from the spinners at the Badanval Depot started by the Department of Industries, and the Depot gets it woven into cloth by weavers who are specially engaged by them. It is interesting to observe that all the weavers engaged by the Depot belong to the

so-called 'untouchable' class, whose primary occupation is agriculture. To them weaving is a subsidiary occupation. Each weaver earned on this account Rs. 80 in 1929-30, which is not an insignificant sum to these most indigent people. When it is further observed that they do this work in their own homes without sacrificing the interests of their primary vocation, nobody can gainsay the enormous advantages that accrue to these poor peasants from this scheme.

The demand for the cloth produced here is very great. The Director of Industries writes:³⁵ "The All-India Spinners' Association at Dharwar have written to me that the demand for Badanval Khadi (hand-spun and hand-woven cloth) is far in excess of its production and that additional centres may be started in suitable places in other parts of the State. The Mysore District Board have under contemplation the establishment of a Khadi Centre at Gundlupet, and the Deputy Commissioner, Kolar, proposes to open a new centre near the Kolar Gold Mining area." After detailing the work of the centre, the Director continues—"It will be apparent from the above brief report of the working of the centre that hand-spinning has established itself as a welcome subsidiary industry in this centre."

The second centre, contemplated in 1928 to be established in Gundlupet, was started at the end of the year 1929-30 and the general lines of work there are nearly the same as those adopted at Badanval. "The District Board of Mysore contributed a sum of Rs. 3,500 towards the initial working capital of the centre."

Great interest is being evinced in this scheme of re-educating the people in their ancient art. The Director states:³⁶ "The non-official Presidents of all the District Boards visited Badanval about the end of the year, and impressed with the work that is being carried out in this

³⁵ *Report of the Department of Industries and Commerce, Mysore, 1928-29*, p. 9.

³⁶ *Ibid.*, 1929-30, p. 11.

area are endeavouring to start Khadi centres in their districts. Proposals have been submitted to the Government for the starting of Khadi centres in Sarjapur in the Bangalore District, Midigesi in the Tumkur District, and Ajjampur in the Kadur District." Some of these centres have been started since.

The Department of Industries is not limiting its activities merely to the spread of the spinning-wheel movement and to educating people in resuscitating the old industry. With the active assistance of its expert engineering and technical staff, it is effecting improvements in the wheel, in the carding instruments, in the weaving looms and other textile appliances. An improved carding machine has been designed, and a few have been made and hired out to the spinners. "As a result of the introduction of the machine in Kabbahalli, the fineness of the average yarn spun in this area has risen from 10's. to 14's. Looms to weave cloth of wider dimensions than those to which the local weavers are accustomed are also introduced, and the weavers are trained to work on them. Modern methods of printing and dyeing are encouraged and demonstrated. All these efforts will undoubtedly go a long way in rehabilitating the once much practised by-industry for the agriculturists and in making their life less precarious and more vitalizing. The agriculturists and the artisans are ill-organized and mostly illiterate and cannot stand competition by themselves against the well-organized and highly developed machine industry; but if technical advice, help in organization and such other assistance are given by the State and volunteer agencies, the chances of advancing subsidiary occupations for the needy farmers are bright indeed!

F. SUMMARY.

Organized instruction for trade and industry began in Mysore in 1862 when the school of engineering was established at Bangalore to train men for employment in the subordinate engineering service. In 1875 the school was raised to the college level and courses in forestry and revenue survey were added. In 1880 its

status was reduced to school level and three years later it was abolished. In the meanwhile foreign Christian Missions started industrial schools of artisan standards to train boys in carpentry and blacksmithy.

In 1889 the Government started an artisan-level industrial school at Hassan, and in 1892 they established another at Mysore.

A great forward move was taken in the first decade of the current century when the two existing government schools were strengthened and five more were added. The policy of giving grant-in-aid to private institutions was also strengthened. By 1910, there were 20 industrial schools under government and private agencies with an enrolment of 1,231 pupils.

A still greater step was taken in 1913 when, as a result of the recommendations of the Visvesvaraya Committee, (1) a mechanical engineering school was established at Bangalore, (2) another school called the Chamarajendra Technical Institute was started at Mysore with branches in engineering, industries and commerce (the older industrial school having been incorporated in it), (3) a government commercial school was opened at Bangalore, and (4) provision was made for improving the industrial schools already existing. Later the Bangalore school was converted into a more comprehensive one for teaching mechanical, civil and electrical engineering, and the Mysore Institute for training pupils in arts and crafts.

A weaving school has been recently organized as an activity of the Government Weaving Factory for training artisans as well as supervisors and foremen in weaving.

Home-industries classes for training poor women and girls in those trades which they can follow at home during their spare time have been organized, six in Bangalore City and two in Mysore. Sewing, knitting, embroidery, spinning, tailoring, rattan work, weaving, printing on cloth and dyeing are taught.

Practical instruction classes, devoting four periods a week in the last three years, have been organized in some middle schools, and as funds are available the

scheme will be pushed on. A few primary schools meant specially for the Depressed Classes teach a few trades. Vocational courses in commercial, trade and industrial subjects have been established in some of the high schools. Four periods a week are devoted for these subjects in the fifth and sixth forms.

With a view to revive the ancient spinning industry in rural parts for giving work to farmers during their off-time from agriculture, two spinning centres have been organized by the Industries Department. Some more centres have been proposed. The District Boards have been interesting themselves in the scheme and some have started their own centres. The yarn spun is woven into cloth locally.

All the government industrial schools and activities, except the Bangalore school of engineering and practical instruction in primary and middle schools and vocational education in high schools, are under the Department of Industries. The school of engineering at Bangalore, practical instruction in primary and middle schools and vocational education in high schools are administered by the Department of Education.

CHAPTER III.

History of Agricultural Education in Mysore.

WHILE the first State attempt for organized industrial education in Mysore was made as early as 1862 with the establishment of the School of Engineering at Bangalore, and while successive attempts were thenceforward made to improve and enlarge its scope, organized agricultural education was commenced as recently as 1913, when the first agricultural school was established by the Government in connection with the agricultural demonstration farm at Hebbal. The strangeness of this lies in the fact that the vast majority of the people of the State live by agriculture and, naturally, one would expect far earlier attempts at agricultural education on modern lines than in any other field of vocational education.

A. AGRICULTURAL SCHOOLS.

(a) *The Hebbal Agricultural School.*

(1) *Aims.*—The objects with which the school was established were outlined thus :¹ “The main purpose of the school is to train the sons of landholders for supervising the cultivation of their lands in an efficient manner. A chief qualification for admission to the school is, therefore, the possession of land within the State by the parents of the students. The only other qualification necessary is a general education and a knowledge of English sufficient to enable the students to follow the lectures and practical work intelligently and with profit to themselves. The test for this is an entrance examination held in the month of May.”

(2) *Training.*—The school is a residential institution and instruction in the theory and practice of agriculture is given on the farm itself and in its laboratories for physics,

¹ *Review of the Progress of Education in the Mysore State for 1911-1916*, p. 68.

chemistry, biology, and veterinary subjects. There is adequate provision for instruction in smithy, carpentry, and fitters' work in the farm-workshop. A dairy has been started with a few cows and buffaloes and dairy appliances, such as separators and improved churns, for practical instruction in making dairy products. Instruction is imparted in all the branches of agriculture by a well-qualified staff, the higher scientific staff of the State Department of Agriculture also taking part in teaching whenever need arises.

While, in the beginning, a high entrance qualification was not insisted upon because of the deliberate policy² of paying "special attention to the theory and practice of agriculture proper, keeping the scientific instruction at a minimum, in order to attract and train the sons of agriculturists who may eventually go back to farm their own land," and the course was one of only two years, the period of training was raised to three years in 1920, and the syllabi were enlarged and improved in order to make instruction conform to a Diploma Course, as in the Colleges of Agriculture in British India. The rôle of science increased and so the entrance requirement was made generally higher necessitating successful completion of the high school course.

(3) *Popularity*.—The institution has become very popular in the State and the people have been increasingly taking advantage of the instruction provided. The Director of Agriculture writes³ in 1930: "The Hebbal Agricultural School is steadily increasing in popularity. Over 100 applications for admission were received. Ninety-six applicants sat for the entrance examination but, of these, only twenty-eight could be admitted, owing to lack of class-room accommodation. The school has now, with the new first year class, an attendance of 71 students as compared with 45 during the previous year." In 1928 68 applicants appeared for the entrance examination and

² *Report on the Progress of Agriculture in Mysore, 1926*, p. 85.

³ *Report of the Mysore Agricultural Department, 1929-30*, p. 9.

only 26 were admitted, and in 1929, 70 sat and only 27 were enrolled.⁴

Though the increased enrolment is a very sanguine sign of the interest taken by agriculturists in seeking for their sons agricultural instruction on modern scientific lines and is therefore to be welcomed, it has added to the embarrassment of the staff; for as the Principal points⁵ out in his report for 1929-30 :

“The increased influx of students to the school has made it very difficult for the efficient handling of the practical agricultural classes by the existing staff.”

It is therefore to be expected that larger accommodation and more equipment will be furnished if the enthusiasm of the people for obtaining agricultural education is not to be chilled.

(4) *Examinations*.—An examination is held in April each year to give those completing the three-year course an opportunity to qualify for the diploma, Licentiate in Agriculture (L.Ag.). The Board of Examiners consists of State agricultural experts and experts from British India, specially invited for the task, so that a high standard is maintained. In 1929, out of 9 pupils, 7 obtained the diploma; and in 1930, out of 9, only 5 were given the award.

The entrance examination for those who desire to be admitted to the institution is held in June at all the District Headquarters. Recently two non-official gentlemen have been added to the committee on admissions; and the admissions are based upon merit as shown by the entrance examination, and communal and regional claims. The policy is to see as far as possible that the benefits of agricultural instruction, provided at State expense, are equitably distributed among all the people.

(5) *Scholarships*.—While the instruction is free to all, a number of scholarships are awarded, in addition, by the Government to meet the boarding expenses of

⁴ *Report of the Mysore Agricultural Department, 1928-29, p. 8.*

⁵ *Ibid.*, 1929-30, p. 65.

pupils. Four out of the eight District Boards have also been granting scholarships to one or two students coming from their areas. Two scholarships from the Government Funds are specially granted to the Depressed Classes.

(6) *Placement*.—While a good number of the graduates have sought and obtained posts in the government service, some that possessed fairly large landed properties have refused to enter the service, although they had very good chances of being entertained and have settled down on their farms, and have been improving them. Until 1927, 25 out of 96 graduates have done so,—a record which is quite encouraging.

As to the service to the State of those entertained in the government agricultural service, the Director of Agriculture observes :⁶ “The men who have joined the Department have nearly all of them justified themselves, being found intelligent and resourceful, energetic and tactful, and fully entering into the spirit of the service required of them. No better testimony is needed to their qualities than the record of District work.”

Positions in government service are becoming scarcer because the limit of its expansion has been reached, at any rate, under the present conditions. Consequently, a number of graduates have had to go to their own farms and settle down to improve the industry in their localities. As the Director says :⁷ “All these men scattered over the various parts of the State, continue to be valuable and serviceable allies to the Department, each in his neighbourhood.” Since the object with which the school was started was to turn out well-qualified agricultural experts who would ultimately settle down on their own estates, it is likely that the institution will function so as to achieve the desired end.

(7) *Short Courses*.—In the earlier years, short courses of about a week's duration were arranged in the vernacular for those farmers who desired instruction in specified

⁶ *Report on the Progress of Agriculture in Mysore, 1926*, p. 86.

⁷ *Ibid.*

subjects of a very practical nature. Tillage methods, jaggery (indigenous sugar) boiling and sugarcane cultivation were some of the subjects dealt with. The Government paid part of the travelling expenses of these farmers. Over 300 took advantage of this scheme.

The school is utilized to impart some agricultural instruction to young probationary officers of the State Revenue Department to give them a little knowledge of the major industry of the country. The class is held for six weeks during the summer holidays. In 1929, 29 men, and in 1930, 25 men were so instructed.

(b) *Chikkanahalli Agricultural School.*

(1) *Aims.*—While the Hebbal School trains pupils for a Diploma which is awarded on a successful completion of a three-year course conducted in the English language and thus provides leaders in the agricultural vocation, the Chikkanahalli School of the Tumkur District, established in 1916, trains farmers in the modern techniques of agriculture by imparting to them instruction of a lower grade in the theory and practice of the industry in the vernacular, the course lasting only one year. The institution owes its origin to the munificence of one Mr. Ugre Gowda who donated a spacious building, adequate dry and wet land for a farm and a cash amount of Rs. 17,000.

All the students have to live on the campus and are generally awarded scholarships provided by the endowment funds and by State Government and District Boards. Out of 21 pupils in 1930, only two were non-scholarship ones. Students come from all over the State.

(2) *Training.*—The instruction is eminently practical, the rôle of science being limited to very elementary principles actually bearing on the problems on hand, since the pupils' scholastic attainments are of low level. Farm practice is given major attention. Indoors, the pupils rear insect pests to study their life-habits, prepare common insecticides and use them, dismantle and fit up machinery and implements of daily use and work at blacksmithy, carpentry, rope-making and basket-weaving in order to gain facility in preparing articles of

common use on the farm. A veterinary expert of the Agricultural Department aids the school staff in imparting knowledge of veterinary science to the boys.

A feature of particular significance is that students visit jaggery boiling houses in the vicinity and help farmers in setting up the machinery. Some practical work in areca-gardening is conducted on the neighbouring estates by the permission of the owners. Thus by a combination of raising crops on the school farm and of assisting adjacent landowners in their farm processes, the instruction is made highly profitable. Excursions to the demonstration and experimental farms maintained by the Department of Agriculture add to the widening of the mental horizon of the pupils.

(3) *Examination.*—At the end of the year's course an examination is conducted by an agricultural expert, and successful candidates are awarded a certificate of proficiency. In 1929, all of the 17 pupils earned the certificate; and in 1930, out of the 17 that sat for the examination, 15 were successful. Every effort is made by the staff to ensure the success of the pupils and to keep down the failures to the lowest level.

(4) *Demonstrations.*—The chief object of this school being the spread of a knowledge of scientifically conducted agriculture among the farmers and thus to popularize more lucrative methods and techniques, appropriate seasonal demonstrations of agricultural operations on modern lines are conducted on the weekly-fair days which are much appreciated by them. The school report for 1928-29 ends with the statement^s—"The work of the school has expanded in all directions and is attracting the neighbouring farming population to the new methods. There is need for additional staff and equipment." The appreciation by the farmers of the service the institution is rendering to them is, undoubtedly, the highest testimony to the success with which it is serving the community according to the wishes of the donor. A yet further

^s *Report of the Mysore Agricultural Department for 1928-29*, p. 66.

proof of its utility to the public is shown by the grant of Rs. 3,000 made by the local District Board during 1929-30.

(5) *Excursions*.—As has been already said, the school has given much importance to excursion tours by students to the agricultural and dairy farms maintained by the Department for bringing home to them the demonstration and research work carried on by agricultural experts. The school report for 1929-30 says, "They were taken on excursion tour to Mysore at their own expense to the Dasara Exhibition and Rayanakere Dairy Farm. Thereafter, they were taken to the Babbur Farm on a walking tour...to give them good practice in jaggery boiling, as the sugarcane of the school was not plentiful enough to give them any practice there. They stopped for a week on the Farm for this purpose. In addition to this, they were made acquainted with the different activities of the Farm."

(c) *The Hassan Agricultural School.*

The success that attended the Chikkanahalli School and the general consciousness roused among the people regarding the improvement of agriculture as a result of over two decades' work by the State Department of Agriculture led a District Board, namely, of Hassan, to take the lead in the establishment of an agricultural school in their locality. They agreed to bear half the recurring expenditure required for running it, while a number of private gentlemen of the District have provided scholarships and prizes for the school. Even industrial firms evince interest, for Messrs. Kirloskar Brothers of Satara, the premier Indian Firm that manufactures agricultural machinery, have presented one of their improved ploughs and a water pump as their gift to the new school. The example of Hassan is being emulated by the other Local Bodies, for the Director reports⁹ that schemes are under consideration for the opening of four additional schools in the Districts of Mysore, Kadur, Chitaldoorg and Shimoga, and that there is a persistent demand for their

⁹ *Report of the Mysore Agricultural Department, 1928-29, p. 9.*

establishment. The Government have expressed their pleasure at the distinct evidence of a marked awakening of interest in agricultural education in the State.

The School was opened on the fourth of January, 1929, and had a strength of 14 pupils on the first of July, 1929, of whom 11 continued throughout the year.

The aims set forth are nearly the same as those of the Chikkanahalli School. Simple theory, intensive practical instruction on school farm (8 acres) during which a pupil has to raise one complete crop and perform all the work connected with it and its allied operations and has to observe and aid in some important field crops grown on the observation plot, veterinary science and leather-stitching and mat-weaving form the main items of the one-year curriculum.

An innovation in instruction consists in the revision of portions done in the form of debates so as to give practice to pupils to express what they learn accurately and clearly.

In June 1930 the first group of students were examined in theory, practice and *viva voce* by an agricultural officer and all were declared eligible for the certificate.

Management.—The school is managed by a committee consisting of—

1. The President of the District Board of Hassan (*Convener*).
2. The Deputy Commissioner, Hassan.
3. The Deputy Director of Agriculture.
4. The District Economic Superintendent, Hassan.
5. One non-official gentleman.

This committee is thoroughly representative of all interests. The publicity given has been attracting visitors to the school and the farm. The ultimate control over staff and equipment is in the Department of Agriculture. The District Board of Hassan is, however, prepared to assume full administrative control and the Director of Agriculture is in favour of this. If the Board takes over complete charge, this will be the first instance

in Mysore, of a local body assuming direct and intensive interest in vocational education.

(d) *Ramakrishnapur Agricultural School.*

The Agricultural School at Ramakrishnapur, Bangalore District, owes its existence to the public-spirited munificence of a lawyer of Bangalore City, Mr. G. Venkataramaniah who for a long time cherished the idea of founding a vernacular agricultural school at his village, Ramakrishnapur, and therefore made over to the Government 273 acres of land and Rs. 10,000 for its establishment.

The institution started work on the 19th of May, 1929 and had 13 pupils on the roll during the succeeding year.

The aims are similar to those of the above two vernacular agricultural schools, of producing trained farmers who will go back to the land and improve agricultural methods and techniques. Theory and practice of agriculture on the school farm, tours to neighbouring estates where agriculture and horticulture are conducted on modern lines, special lectures by the scientific staff of the Department of Agriculture, instruction in veterinary science, blacksmithy and carpentry form the main items in the training programme.

A special feature is that not only tuition but also boarding and lodging are free. The District Board of Bangalore is interesting itself in the scheme, and in 1930 it sanctioned Rs. 1,000 towards hostel expenditure.

The management is directly conducted by the State Department of Agriculture.

B. AGRICULTURAL INSTRUCTION IN MIDDLE SCHOOLS.

One of the criticisms levelled against the Indian system of education is that it is too literary and that it does not train the sons of farmers to become more efficient farmers but makes them long for service under government. The majority of the humbler farmers wish that, while their sons get cultural education, they should also

be instructed in the vocation of their parents so that they may return to their estates better fitted to do the task. To meet the wishes of the agricultural population, the Government has in recent years sanctioned that in certain rural middle schools agriculture may be taught as a subject for 6 out of 33 periods a week in the second, third, and fourth years, the practical work on the farm being done at times convenient to the pupils, that is, generally in the mornings.

In 1930, there were twelve middle schools imparting instruction according to this scheme. The teachers are generally graduates of the Hebbal Agricultural School and have thorough training in agriculture. The subject, when taken by pupils, is just as much a subject for Public Middle School examination as the purely cultural ones and has therefore the same standing in the curriculum as the latter. The pupils therefore pay adequate attention both to the theory and practice of agriculture.

The object with which the classes were started seems to have been fairly achieved as can be seen from the remarks¹⁰ of the Director of Public Instruction :

“The farms attached to these middle schools have done good work and they have been yielding some produce, the money realized from the sale of which has been duly credited to the Treasury. The agricultural classes are fairly popular. The parents of the boys are taking interest in the affairs of the school farms. They lend their bullocks on hire whenever their services are required on the farm. They watch with interest the cultivation of the varieties of crops and the experiments regarding the use of artificial manures, etc. It is also gratifying to note that ragi crop raised on the school farm at Kadur and Harohalli was purchased by the *raijets*¹¹ for seed purposes, and seed enough to sow an area of a little over 100 acres has been bought by the *raijets*. The *raijets* have begun to appreciate the benefits that they can derive from the existence of the agricultural farms in their village.”

¹⁰ *Report on Public Instruction in Mysore, 1928-29*, p. 40.

¹¹ *Raijet*—Cultivator.

In addition to these 12 middle schools, the Government has sanctioned the teaching of agriculture in six more rural middle schools¹²; and as soon as land is acquired for farms, instruction will commence.

In order to secure really efficient teachers, the salary was raised from Rs. 25 to Rs. 35 in 1928, but even then it has been difficult to attract capable men.

Administration.—Since the middle schools are under the administrative jurisdiction of the Education Department, the ultimate responsibility for the proper working of the scheme rests with the Director of Public Instruction. There is attached to his office an Agriculture Inspector to organize and supervise instruction in these classes. He inspects teaching, and submits his reports to the Director about improvements to be made in instruction and equipment. During the inspection time, he holds conferences with teachers and suggests improvements to be made.

Since the middle schools, however, are under the *direct* administrative charge of the District Educational Officers, the Director sends the Inspection Reports of the Agriculture Inspector to them for ensuring that the deficiencies pointed out by him in the schools under their respective charges and the improvements suggested by him are carried out. If the District Educational Officers have to comment on any of the points raised by the Agriculture Inspector and to suggest further adjustments, they do so to the Director. Thus the District Administrator and the Supervisor help each other in the efficient maintenance of the scheme.

C. AGRICULTURAL EXTENSION WORK.

The Department of Agriculture does the work of extending agricultural information to the farmers and of popularizing improvement in agriculture among them by a staff specially appointed for the purpose. This staff consists of a Deputy Director having jurisdiction over

¹² *Report on Public Instruction in Mysore, 1929-30*, p. 38.

four districts (Mysore, Bangalore, Kolar and Tumkur) and an Assistant Director over four other districts (Shimoga, Chitaldoorg, Hassan and Kadar), the former having 13 assistants called Agricultural Inspectors and the latter 14 such. "As the total number, *viz.*, 27 (Inspectors) falls short of the number of taluks in the State which are 78 in number, each of the Agricultural Inspectors has two or more taluks in his charge depending upon the size and importance of the taluks. Under the Agricultural Inspectors, work the Fieldmen who are to carry out the actual field operations in the various items of demonstrations."¹³

METHODS OF WORK.

(a) *Demonstration*.—The one most potent method that has been found to be really very efficient from experience by actual work among the agriculturists is the ocular demonstration of the raising of crops in the fields of the owners by using improved appliances, improved and selected seed, and more efficient manure and by adopting scientific treatment against pests and diseases which devastate crops if unheeded. Sufficient interest has been aroused among respectable raiyets in recent years to secure their co-operation to carry on these experiments on their farms; and the success achieved has been an eye-opener to neighbouring people regarding the efficacy of modern methods. It is now usual for the Inspectors to receive oral and written requests from people inviting them to conduct experiments on their estates.

When once a farmer undertakes to follow any of the recommendations of the Extension Workers, he becomes their client and his name will be entered in the Clients' Register maintained in the office of the Inspectors. The progress achieved by him is watched from year to year and every aid is given to him in securing modern appliances and their parts, or getting repairs done to them when they are damaged, in obtaining efficacious manures and seed at very reasonable price. While in the *four* years 1910-1914, 746¹⁴ improved ploughs were bought by the farmers

¹³ *Agriculture in Mysore*, 1926, p. 68.

¹⁴ *Ibid.*, p. 70.

of the State, in the *one* year 1929-30, the number sold by the Department was 2,892¹⁵—and the estimated number sold by firms direct was over 1,000. In 1917, the amount of chemical fertilizers used was hardly one ton. In 1928-29, it was over 2,000 tons. On account of this great demand for artificial fertilizers, Messrs. Shaw Wallace and Company have opened six depots in the State to sell them, have appointed five fieldmen to work under the Agricultural Inspectors, have got special agents to get into touch with co-operative societies, village panchayets (village governing boards) and large growers. Similar phenomenal improvements have been recorded in other directions too. The work has attracted the attention of farmers to such a degree that the clientele has grown up to 50,000.

(b) *Conferences.*—The Agricultural Inspectors constantly tour in their areas, not only to see how the experimental crops of volunteers progress, but also to convene conferences of villagers and talking to them on various aspects of agricultural improvement. The farmers are encouraged to place their difficulties and problems before the Inspectors, who in their turn offer solutions wherever possible. It is not infrequent that some of these questions form excellent research problems to the scientific staff of the Department of Agriculture. I have witnessed some of these meetings and have realized the great extent to which the growers of food for the nation have been motivated in their task. It is rare that any important fair or a big religious mingling called 'jatra' or a District or Taluk Conference takes place without an officer of the Extension Department being in evidence, lecturing, demonstrating or exhibiting. Lantern slides are used very often during demonstrations.

The ground hitherto covered in agricultural instruction and propaganda by these peripatetic teachers and the progress achieved in changing the outlook of the people on agriculture as a profession has been summarized¹⁶ thus by the Director :

¹⁵ *Report on Administration of Mysore, 1929-30, p. 33.*

¹⁶ *Agriculture in Mysore, 1926.*

"It can be claimed that there is no landholder of any importance whose land has not been inspected by the staff. It is a sign of the times, that a number of English educated landholders and others are beginning to look to the land for a career, are acquiring new land or taking up the cultivation of their own land into their hands and avail themselves of the advice of the Department relating to land improvement, irrigation, drainage, cropping scheme, farm machinery, manuring, remedies for diseases, etc."

(c) *Publications.*—Though in a country where literacy among the farmers is very low ocular demonstrations and individual and group conferences would be more fruitful than propaganda and instruction through publications, the Department has spared no pains to issue bulletins, calendars and circulars dealing with methods of collecting and conserving cattle manure, of getting rid of pests and crop diseases, of keeping good breeding bulls and stallions and such other topics. These calendars and circulars are printed both in English and in the vernaculars and are distributed free or at a nominal charge. The vernacular newspapers in the State have been utilized to broadcast suitable seasonal information. Agricultural experts have been writing on important subjects of immediate use to the raiyet. Illustrated vernacular leaflets are specially printed and distributed from the depots of Agricultural Inspectors.

(d) *Agricultural and Experimental Union.*

This is an association of all those who are actively interested in the progress of agriculture and consists of officials and non-officials—and thus forms a link between those who actually till the land and those who are engaged in scientific investigation and research. It was started in 1918. The new methods, manures, etc., are first tried on trial plots of members under supervision of Departmental experts, and the success achieved by these trials has been a fruitful source of the spread of agricultural knowledge among the public.

Under the auspices of the Union, an Agricultural Journal is published quarterly in English, as well as

monthly in the vernacular, special attention being devoted to a record of the experimental work conducted by the members of the Union and the experts of the Department.

The Union is appointing its own fieldmen to assist Agricultural Inspectors to gather special information that may be needed by farmers. The steady work has led to a large increase in the membership of the Union ; and the Union has been not a small factor in the dissemination of very worthwhile agricultural information among the public.

(e) *Mysore Dasara Agricultural Exhibition.*

During the Dasara Festivities which come off about September or October, a large number of people from all over the State congregate in Mysore City, and the Agricultural Department arranges an elaborate exhibition of appliances, manures, seeds, etc. This annual demonstration has been much appreciated by the public. Regular Demonstration Farms are attached to the exhibition and actual crops are raised for visual instruction purposes.

"Every year a display entitled 'All about Sugarcane,' 'All about Ragi,' etc., was prepared in which the display of every feature, e.g., soils, varieties, implements used, preparation of produce, and so on, of each crop was arranged for by strikingly instructive exhibits, models, charts, actual specimens and so on."¹⁷

Hundreds of farmers not only visit the display but buy whatever they consider essential for their work on their farms. In a country where illiteracy prevails to an enormous extent among the agriculturists, this visual instruction is highly potent.

(f) *The Experimental Farms.*

There are five experimental farms maintained by the Department of Agriculture for purposes of conducting research in getting better varieties of seeds, for testing manures, for investigation of pests and diseases of crops,

¹⁷ *Agriculture in Mysore*, 1926, p. 135.

for trying the efficiency of new agricultural implements and machinery. They are (1) The Hebbal Farm in Bangalore District, (2) The Marthur Farm in the interior of the hilly Shimoga District, (3) The Nagenahalli Sugarcane Farm, 5 miles distant from Mysore City, (4) The Babbur Farm in the dry Chitaldoorg District, and (5) The Balehonnur Coffee Farm in the heart of the coffee-growing district of Kadur.

The successful results obtained in these experimental stations are placed at the disposal of the farmers for their use. The demonstrations carried on in these farms have been an education of no small value to them, and many a farmer has been motivated to adopt the suggestions emanating from these stations.

"Two other farms, one a cocoanut farm in the Tiptur tract for the study of the cocoanut and another a large sugarcane farm for growing sugarcane on a commercial scale to be located in close proximity to the Krishna-rajasagar Dam, are proposed to be opened at a very early date."¹⁸

D. SERICULTURAL EDUCATION.

Sericulture being one of the major industries of the State, the Government have made efforts to develop it from 1913 when an Italian expert, Signor W. Mari, was appointed to organize the industry on modern lines. During the one year of tenure of his office, "...he started a small farm at Channapatna and made a beginning in the manufacture and issue of cellular seed."¹⁹ Since then, the advances made in the industry have been so fruitful that at present there are six major farms at Mysore, Channapatna, Kolar, Kunigal, Babbur and Sidlaghatta under the Department of Sericulture.

(a) *Education on the Sericulture Farms.*

"Every farm of the Department is a school for practical instruction, and profoundly influences rearing methods in the neighbourhood."

¹⁸ *Agriculture in Mysore*, 1926, p. 67.

¹⁹ *Ibid.*, p. 91.

In 1929-30, there were 45 students receiving training under the direct supervision and instruction of the experts on the farms, the course lasting for about a year. Short courses lasting for a few days or weeks, depending upon the particular projects selected by the pupil, are also given. The instruction is thus arranged to suit the needs of the people.

The District Boards are evincing keen interest in the progress of the sericulture industry and in education. In 1929-30, out of the 45 students, 19 were getting scholarships from the Boards. Two received scholarships from the Government and "...the rest were under training at their own cost. Out of the 45 students, 22 finished their training and six of these trained students started aided grainages."²⁰ The policy of the Department is to encourage these people to join the classes who will make use of the instruction provided in some manner or other so as to improve the industry.

(b) *Training at Government Silk Filature.*

The Silk Filature, started in Mysore in 1922 with 12 basins, has now expanded and contains 36 basins of modern construction. Instruction is given here to those who wish to produce silk from cocoons. In 1929-30, forty people were so trained.

The equipment is gradually increased and more up-to-date appliances are being added. "With a view to improve the quality of silk produced in the filature, silk testing appliances—such as, cleanliness testing machine, conditioning oven, etc.—were installed in the Government Filature. Arrangements were made to get appliances for testing the reeling quality of cocoons, etc., from Japan."²¹

The Filature has been attracting highly educated people too; for out of the 40 people under training in 1930, two were graduates of the Mysore University, one receiving a scholarship from the Sericulture Department.

²⁰ *Report of the Department of Sericulture, 1929-30, p. 1.*

²¹ *Ibid.*, p. 8.

The Government is encouraging students by granting scholarships. The District Boards grant eight.

(c) *Silk Twisting and Silk Reeling Classes.*

The silk merchants of three silk producing centres, namely, Sidlaghatta in Kolar District, Dhanagudi in Mysore District and Bylenarasapur in Bangalore District, have started classes for teaching silk twisting on improved lines to women by using the indigenous spinning wheels. The Government have sanctioned grants-in-aid for encouraging these enterprises, especially because the training enables Gosha (veiled) women to engage themselves in a subsidiary occupation and earn some money. There were altogether 73 pupils in 1929-30. The Superintendent of Sericulture writes, "The demand for these schools is on the increase."²²

Another scheme is for training people in reeling silk. Private people have installed domestic basins for reeling. Eleven of them have attached reeling classes, the instructors being those who received thorough training in the Government Silk Filature. Sixty pupils were trained in 1929-30 and all of them were absorbed by the owners of domestic basins.

The Department also sends Reeling Demonstrators to any private installation having single and double basins to train workers there.

(d) *Sericulture Classes in Middle Schools.*

Under the Practical Instruction scheme of the Department of Education, sericulture classes have been opened in three middle schools, at Malavalli, Kuduru and Grama. Here pupils are given instruction in sericulture on the farm and in the laboratory for 6 periods a week. In 1930, there were 150 students under training in all the three schools.

The teachers have had their training on the Government Sericulture Farms. The Inspectors of the Department of Sericulture visit the schools and offer assistance

²² *Report of the Department of Sericulture, 1929-30.* p. 9.

to the teachers in organizing the work. There is thus close co-operation between the two departments which ensures successful working of the scheme.

(e) *Extension Education in Sericulture.*

(1) The central farms maintained by the Department of Sericulture are in charge of officers called Senior Inspectors who are highly qualified to do the work entrusted to them. Each of these officers controls a number of subordinate farms located in important silk-producing areas and direct their functions, namely, of advising the farmers on the best mulberry cuttings, disease-free silk-worms, rearing and reeling appliances and methods of disinfection. Whenever in any place the raiyets develop the industry sufficiently according to the instructions given by the experts, an outpost is established there in charge of a competent officer for still further intensive education. Thus instruction is carried to the very home of the producer.

Though there are six Senior Inspectors, twenty Junior Inspectors and thirty Operatives to do the propaganda for advancement of sericulture in the State, the staff is regarded as very inadequate and the amount of work yet to be accomplished is enormous. The mass of workers is illiterate, and this fact alone militates against the quick dissemination of knowledge as considerable portions of them are unable to make use of printed matter giving useful hints. But the redeeming feature is that the representatives of the people in the District Boards are alive to the situation, and they are voting funds from the Boards for granting scholarships to deserving people to go to the farms and Filature for getting training. It is possible that in course of time they may appoint their own staff to do extension work either by themselves or under the immediate direction of the Departmental experts.

(2) Exhibitions of the improved processes of reeling, using disease-free seeds, rearing silk-worms, grainage work and microscopic examinations of diseased worms are often arranged in localities where such information is necessary. During these occasions, conferences

with workers are held for oral instruction, answering questions and solving difficulties. The Departmental experts spare no pains to attend meetings of Village Panchayets and District conferences when they deliver lectures with the use of lantern slides on sericultural topics. Elaborate demonstrations of all aspects of the industry are arranged annually at Mysore City during the Dasara Festival. Here those who have set up private grainage get valuable information. For working specially among women, a lady demonstrator has been appointed recently. If her work bears good fruit, others will be appointed.

(3) The Mysore Silk Association consists of all those who are interested in the advancement of the sericulture industry and especially those who are actively engaged in it. The Executive Committee meets periodically to discuss matters pertaining to the industry and to take measures to effect improvements. It sends up recommendations to the Department, and thus to the Government, on all important items affecting the growth of silk industry in the State. The Government has permitted the printing work of the Association to be done in the Government Printing Press free of cost. The publications are a source of education for the people on sericultural matters.

E. SUMMARY.

The first agricultural school was started in 1913 in connection with the agricultural farm at Hebbal. Though the chief object in establishing it was to train sons of landholders to continue cultivation on improved lines, the alumni have looked more to Government service than towards professing agriculture as a vocation. However they have turned out to be experts in agricultural matters and have afforded leadership along that line.

Three more agricultural schools have been started since, the main purpose being to train efficient farmers. While at Hebbal instruction is imparted in English and the course extends over three years, in these institutions instruction is offered in the vernacular and the course lasts for a year. The vernacular agricultural schools have

appealed to the practical sense of the farmers and there is a great demand for their establishment in the other parts of the State.

Agriculture as a practical instruction subject has been introduced in some of the rural middle schools with the avowed object of giving a vocational bias to rural education. Practical work on the school farm and theory in the class room are both attempted. The time allotted is six periods of fifty minutes each per week during the school year. The course begins in the second year and continues in the third and fourth year classes. The pupils have to offer this subject for the Middle School Public Examination like the purely literary subjects.

Agricultural extension work is conducted in the districts by a specially appointed staff. Raising the crops on the fields of the farmers using improved appliances, fertilizers and seeds is found to be the most efficient method in a country where the cultivators are mostly illiterate. The extension staff pays much attention to this ocular demonstration method. Conferences with individuals and groups of agriculturists, lectures demonstrated by lantern slides, publications on agricultural subjects both in English and vernaculars and exhibitions of agricultural machinery, manures, seeds and so on at Mysore during the Dasara Season (September or October) and at various other places including the experimental farms are the other modes of interesting cultivators in the modern methods of farming.

The six major sericulture farms with their auxiliary smaller farms and outposts afford immense practical instruction to those who grow mulberry and rear silk-worms. The Government Silk Filature at Mysore provides training on improved lines to those who are engaged in producing silk from cocoons. The Government have sanctioned grant-in-aid by way of encouragement to those silk merchants who have started classes for teaching silk-twisting and reeling to women. Sericulture is a practical instruction subject in three middle schools. The extension officers of the Sericulture Department have

been offering technical information and other assistance needed for the upgrading of the industry.

The agricultural schools and the agricultural extension work are under the control of the State Department of Agriculture. The practical instruction in middle schools is administered by the Department of Education. The sericulture farms and extension work are managed by the Department of Sericulture, the Department itself being under the supervision of the Director of Industries.

CHAPTER IV.

History of Commercial Education in Mysore.

A. GROWING NEED FOR COMMERCIAL EDUCATION.

WHERE life is very simple and commerce and trade barely go beyond the realm of the small shopkeeper, the pressing need for commercial schools to train business men, salesmen and book-keepers hardly arises, and people do not feel the necessity for establishing courses of instruction for them. All the training that a novice obtains is on the job, as when he helps his father in his petty trade by carrying out whatever behests the parent gives, or when he is employed as a paid assistant to do odds and ends for a local tradesman. The methods are what have been handed down from generation to generation with little or no change for centuries. This was the condition in Mysore till the end of the nineteenth century and it continues to be so even to-day except in the cities and larger towns where merchants have to carry on commerce with larger centres of commerce and industry like Bombay and Madras and with foreign countries like England and America. It is the impetus of commercial relations with the bigger trading places and firms developed by the more progressive merchants in the State that makes people realize the necessity of keeping accounts on modern lines, of carrying on correspondence according to up-to-date methods and of utilizing the services of the steno-typist and the trained auditor.

In recent years factories for the manufacture of cotton, woollen and silk goods, metal wares, cast iron, white lead, sandal oil, soap and various other commodities have been established in the different parts of the State, and they have been employing as accountants, stenographers and book-keepers those who have had school training in the respective subjects.

The Government of the State also employs stenographers and typists in the offices on a larger scale than

was the case two or three decades ago. In the financial sections of government offices, preference for employment is given to those candidates who possess a knowledge of accountancy and book-keeping. To earn promotion to higher salaried posts these clerks already in service, who have not initially had training in these subjects, attend evening classes and become qualified in those subjects.

In recent years, on account of the spread of the use of electricity for power purposes and the general stimulation of the people towards industrial undertakings, small-scale industrial installations like rice and flour mills, pumping plants, domestic power weaving looms, saw-mills and printing presses have been erected all over the State. Motor-bus public conveyance companies have increased enormously. For clerkships in these concerns preference is given to candidates possessing knowledge of commercial subjects useful for service there.

The bigger merchants, commercial firms and banks have awakened to the necessity of employing a staff trained in commercial subjects. Where a decade ago letters used to be written, it is not now unusual to have them typed. Book-keeping on modern lines is also coming into vogue. Since the introduction of the income-tax, services of certified auditors are depended upon by merchants and commercial houses to a degree unknown before.

All these changes have come about only during the last two or three decades, not only in Mysore but all over India. "Commercial education has only in the last few years found recognition in India. So little has been accomplished in this direction that the last quinquennial review of education in India devotes one page to the subject."¹

"Commercial education has only in the last decade or two found recognition in India. In the State (Mysore) also commercial education is of very recent growth and as understood to include education which prepares specially

¹ *Progress of Education in the Mysore State, 1911-1916*, p. 64.

for business careers is yet to be adequately developed. The demands of the present are for more efficient business men, a smaller percentage of business failures, a more intelligent devotion to business as an occupation—demands which can be met only by special educational provision. Competition, internal and external, forces the issue upon us; the trend of events is unmistakable, society is pre-eminently industrial and economic and our education must reckon with the predominant institution. Education must fit for an economic citizenship.”²

The situation in India as a whole has been succinctly reviewed by the recent Indian Central Banking Enquiry Committee thus :—

“ Until the end of the last century commercial education appears to have received little attention in this country. Banking education, which is a branch of higher commercial education, was not even thought of. During the last three decades, however, public interest in the question has been aroused and considerable impetus has been given to the systematic study of commercial subjects, including banking, which have been incorporated by almost all the Indian Universities in the curricula for their examinations. In nearly all the provinces commercial subjects also form part of the optional subjects which may be taken at the various examinations held at the end of the intermediate and secondary school courses. Several schools and colleges specializing in commercial subjects have been established in the principal cities. The number of students attending such institutions and reading either for a diploma or a degree has been steadily increasing. In the year 1928-29, there were seven colleges with 1,599 students and 149 schools with 7,069 students imparting education in commercial subjects.”³

Dealing with elementary instruction in commercial subjects, the Committee says, “ Most of the Commercial

² *Progress of Education in the Mysore State, 1917-1922*, p. 101.

³ *The Indian Central Banking Enquiry Committee, 1931—Majority Report*, p. 483.

Schools provide courses in shorthand, typewriting, book-keeping, banking and commercial geography, but a few have a larger variety of courses."⁴

B. LEAD BY PRIVATE AGENCIES.

The first to establish a commercial school in the State was a private gentleman, Mr. G. C. L. Naranaiya. He founded an humble institution in 1897 at Bangalore to teach correspondence, book-keeping and shorthand. He charged very low fees and the receipts were just adequate to meet the cost of appliances and of their maintenance. He had himself to render services with no remuneration in the earlier years.

Four years later instruction in banking and commercial geography was taken up. Until 1902, the classes were held three days in the week from six to eight o'clock in the evenings; but from that year the school worked every evening on account of the increased demand for commercial education imparted therein. The earnest efforts made by the gentleman attracted the attention of the Government and his institution was placed on the grant-in-aid list with a modest annual grant of Rs. 240. There were 41 pupils in June 1902 and the school has progressed steadily since that year.

In 1906, another private institution, the Hardwicke Commercial School, came into existence. It received Government grant immediately. Instruction was imparted here in typewriting, book-keeping, shorthand, commercial correspondence and commercial geography. The school functioned for fourteen years after which time it ceased to operate.

In recent years, two more fairly efficient private schools of commerce have sprung up. The Champion Metropolitan College of Commerce, Mysore City, offers instruction in typewriting, shorthand, accountancy and auditing, banking and economics, methods and machinery of

⁴ *The Indian Central Banking Enquiry Committee, 1931—Majority Report*, p. 486.

business, geography, and English composition. It is receiving a grant of Rs. 150 per mensem from the Government. The Brighto Institute of Commerce, Mysore, though receiving no government aid, was recognized⁵ in 1929-30 for the purpose of preparing and presenting candidates for the Government commercial examinations in shorthand, typewriting, and accountancy. It offers instruction also in book-keeping, and methods and machinery of business.

C. EFFORTS OF THE STATE GOVERNMENT.

These initial efforts for the organization of commercial education in Mysore were put forth by private agencies. The State was rather tardy in taking the initiative beyond affording monetary aid to private institutions. It was not till 1913 that the Government established commercial schools and made fairly elaborate arrangements for instruction in commercial subjects in English as well as in the vernaculars. The situation parallels that in the United States, where commercial education was first organized by private institutions, and the public schools entered the field much later.

Kitson says :⁶ "Until the late nineties of the past century, the bulk of the education for business which was available in the United States was offered by private institutions generally known as 'business colleges'. With the beginning of the new century, however, there came a change of idea regarding the responsibility of the State for education of a vocational nature.... The handful of public secondary schools which in 1819 offered courses in commerce has now increased to include almost all the high schools in the country."

In Germany the development took a slightly different turn; but the State was likewise tardy. Earlier efforts were on the part of merchants, but an industrial law made it possible for Chambers of Commerce to hold the field.

⁵ *Report of Public Instruction in Mysore, 1929-30*, p. 50.

⁶ H. D. Kitson, *Commercial Education in Secondary Schools*, Ginn & Co., New York, 1929, p. 3.

Dealing with vocational education in that country, Edwin G. Cooley says:⁷ ".....isolated bodies of business men had attempted commercial training for the young merchant. The partial success of one or two of their attempts paved the way for the present organization. The commercial organizations of several cities of Germany have from time to time attempted to provide schools or instruction for commercial apprentices. The first really successful school of this sort in Germany owes its existence to the action of the business men of Leipzig, who founded a commercial school in 1831 known as the Commercial Institute."

The German Industrial Law of October 15, 1861, however, provided for the formation of Chambers of Commerce and Industry, and it greatly reduced the importance of the mercantile corporations. The Chamber of Commerce was immediately organized and the management of the school was undertaken by it. The institution was styled "The Public Commercial Institute" and is governed by a board of six members selected by the Chamber of Commerce of Leipzig and the Director of the School.

The situation in Germany in 1912 with regard to State aid is depicted by Cooley thus:⁸ "It is only in rare cases that the State has undertaken the task of establishing commercial educational institutions; usually this step is taken by industrial cities, with the co-operation of the local Chamber of Commerce. Sometimes the Chamber of Commerce acts of itself, and it often happens that the educational institutions are private undertakings of teachers or merchants....There is in Germany at the present time no real system of commercial schools maintained under an organized plan of the State authorities and of the corporations of merchants and covering the land with a network of general educational institutions.In supplying the necessary money for the support of

⁷ Edwin G. Cooley, *Vocational Education in Europe*, The Commercial Club, Chicago, 1912, p. 203.

⁸ *Ibid.*, pp. 51-52.

the commercial technical schools the representatives of the commercial classes stand first, and the city and the State must take second place. The latter agencies provide particularly for the continuation schools."

In recent years, the State and local public authorities have been giving greater aid. "To-day, however, financial support comes in the large majority of cases from the local public authorities (cities and other areas)...in most states the government also grants a special subsidy."

The situation in England is this: "Until the last decade of the nineteenth century, instruction in technological and commercial subjects was not fostered on any generous scale as a comprehensive national policy either by the State or by the industrial community."⁹ The mechanics' institutes organized evening classes in book-keeping and languages in the early part of the last century and continued their work until they were succeeded by technical institutes in the latter half of the century. As a result of the recommendations of the Royal Commission on Technical Education appointed in 1882, local authorities for technical education, which included commercial instruction, were established with rating powers and "funds were provided from national sources to assist County and County Borough Councils in fostering technical instruction."¹¹

The Board of Education says: "Even more than the creation by the Technical Instruction Act of 1889 of local authorities with rating powers, the allocation in 1890 of the local taxation residue grants between County and County Borough Councils to provide local funds for technical instruction came opportunely for the satisfaction of some of the more urgent needs of the time."¹²

⁹ *Educational Year Book*, 1928, Teachers College, Columbia University, p. 369.

¹⁰ *The Year Book on Education*, 1932, Board of Education, p. 311.

¹¹ *Ibid.*

¹² Board of Education, *Survey of Technical and Further Education in England and Wales*, Pamphlet 49, p. 10.

Here then began the public responsibility for commercial education. Technical schools under public control sprang up everywhere. But yet private institutions hold a good extent of the field and make profit too. "The fact that subjects such as shorthand, typewriting, book-keeping, office routine, commercial correspondence and, occasionally, modern languages have long been looked upon by employers and by their clerks as subjects which can usually be mastered rapidly and effectively by intensive courses of study has led to the establishment, in nearly every large town, of private 'schools of commerce' which offer a thorough training in one or more of these subjects. These schools satisfy a widespread demand and in any survey of commercial education must be given their due place by the side of publicly provided institutions."¹³

In the United States, though the public school systems, maintained by taxes by the individual political units, offer programmes of commercial education, the Federal Government has not made any direct provision for commercial training either in the Smith-Hughes Act of 1917 or in any subsequent acts, beyond providing "... that the Federal Board for Vocational Education shall make studies and investigations and reports with particular reference to their use in aiding the States in the establishment of vocational schools and classes and in giving instruction in commerce and commercial pursuits."¹⁴

It is only by a liberal interpretation of the section¹⁵ of the Federal Vocational Education Act dealing with the subjects which may be taught to enlarge the civic or vocational intelligence of workers over fourteen and less than eighteen years of age that reimbursement from Federal funds may be made for the salaries of teachers of commercial subjects in general continuation part-time

¹³ *The Year Book on Education*, 1932, Board of Education, p. 321.

¹⁴ *Vocational Education in the United States*. Document No. 309, 73rd Congress, 3rd Session, 1931, p. 25.

¹⁵ Federal Board for Vocational Education, *Statement of Policies*, Bulletin No. 1, 1927, p. 49.

schools. Federal funds cannot be used for reimbursement of salaries of commerce teachers if they are employed by the States in trade-extension or trade-preparatory part-time schools, or full-time day schools or evening schools. The lack of Federal assistance to actual training for commerce is due to the feeling that public and private schools are already making adequate provision for it. The result has been that commercial education has not attained the same status as vocational education in agriculture and trade and industry. A recommendation has, however, been made to the Senate that "Commercial education is in a relatively backward state.... Commercial education should be placed on a footing of full equality with agricultural, trade and industrial, and home-making education. Provisions made under the Act of 1917 for this type of education are entirely inadequate."¹⁶

Thus it is seen that in some of the very progressive countries too the State has been rather tardy in providing for commercial education. Prejudice against organized school training for commerce was one of the obstacles. With regard to Great Britain, a country ranking high in commerce, it is said, "Still the movement had to face a good deal of opposition, or at least inertia, mainly from the widespread belief, which has not yet entirely disappeared and which is based on a half-truth, that commerce is best learned in the shop and the counting-house."¹⁷ Writing about vocational education in England, F. H. Spencer says:¹⁸ "...in England commercial education is less highly developed than technical education, partly because it is a much later form of vocational education and partly because a typical English business man still seems to prefer for commerce the general education provided by the secondary schools and the public schools

¹⁶ *Vocational Education in the United States*, Document No. 309, p. 26.

¹⁷ *Encyclopædia Britannica*, Vol. 6, 14th Edition, Commercial Education, p. 113.

¹⁸ *Educational Year Book*, 1928, Teachers College, Columbia University, p. 257.

(in the English sense of the term). Trained mind, a vigorous body, and good manners are, he very frequently argues, much more important than any attempt to teach in an educational institution the technique of business or even the principles underlying the conduct of commerce."

(a) *Government Commercial Schools.*

As a result of the recommendations of the Visvesvaraya Committee appointed by the Government of Mysore in 1910 to investigate and report upon industrial education in the State, a Government Commercial School was established in 1913 at Bangalore, and a commercial section was organized in the same year as a department of the Chamarajendra Technical Institute at Mysore. The subjects of instruction then were banking and currency, book-keeping and accounts, commercial correspondence and office routine, shorthand, typewriting, political economy, and two vernaculars (Marathi and Kannada). Instruction was imparted in English. In a few years, the classes at Mysore developed into a separate Government Commercial School as in Bangalore. For the benefit of merchants who did not know English, classes were opened in Bangalore for teaching commercial subjects in the vernaculars,—Tamil, Telugu, Marathi and Gujarati. In 1916-17, the scheme of commercial education in the vernacular was extended to four more commercial centres, Chintamani, Tirthahalli, Davangere and Nanjangud. But these courses were not popular with the business men. Those who knew English were the more enterprising and cultured, and they knew the advantages of modern methods in commerce, and consequently they either sought commercial education themselves or better still they wanted their boys to get it. Those who had no English education were conservative and were content to follow their old-fashioned ways. They perhaps did not need the modern methods, their ways of trading being very simple. As the enrolment in the vernacular classes gradually dwindled, they were abolished.

The courses imparted in English drew more clerks from public offices and trading concerns than business men.

In 1921-22, the Inspector-General of Education made the following remarks in his annual report :—

“ It cannot be said that these schools have justified the somewhat high expectations formed of their utility, when they were started. Perhaps this is one of their misfortunes and not one of their faults. They have chiefly served as training grounds for junior clerks in public offices and commercial firms. They have had few attractions for men already engaged in business. Their influence will only be felt in the fulness of the time when the men trained in them and entering commercial life as Junior clerks make use of their opportunities and rise to prominence and success as independent business men.”¹⁹

Commercial education can thrive only if there are enough careers for young men promising adequate salaries in the commercial world. This means that large-scale commerce should prosper. This is no doubt a slow process in the State as we see it now. There is surely gradual progress, and in the acceleration of that progress lies the hope for the future.

Recently the commercial classes under government management at Mysore have been ordered to be abolished.²⁰ The Government want to concentrate their attention on the commercial school at Bangalore. They have sanctioned here the opening from 1930-31 of classes to train for the Government Diploma in Accountancy, the examination for which is conducted by a Board of the Government of India.

(b) *Commercial Classes in High Schools.*

When the curricula of studies in high schools were revised in 1913 as a result of the introduction of the secondary school leaving certificate (S.S.L.C.) scheme, commercial practice, commercial geography, shorthand and typewriting were introduced as optional subjects.

¹⁹ *Review of the Progress of Education in Mysore, 1917-22*, p. 102.

²⁰ *Report on Public Instruction in Mysore, 1929-30*, p. 49.

Arrangements were made for teaching one or more of these subjects in the more important government high schools in the State. When a student studied any of these commercial subjects, he was required to present them for the S.S.L.C. examination. The aim in introducing these subjects in high schools was to fit the pupil taking them for a business life or public service. The courses, however, were useful in giving these pupils a bias towards stenotyping and in showing them some of the possibilities of commercial education.

When the high school curricula were revised again in 1924, commercial subjects were continued as optional subjects and were included in the vocational subjects along with others as stated in Chapter II. In 1926-27, there were eleven government high schools imparting commercial instruction. The extension of the scheme to other high schools is taking place only gradually on account of the financial stringency in the Government.

The introduction of commercial subjects in high schools is a general feature in almost all the provinces in India. The Indian Central Banking Committee reports, "In nearly all the provinces commercial subjects are included among the optional subjects for the examinations held at the end of the secondary school course."²¹

The high schools in Mysore are under the direct charge of the Deputy Directors of Public Instruction in the two divisions for administration as well as inspection. They therefore inspect commercial instruction and look to adequacy of equipment.

The commerce staff is carefully selected with due scrutiny of the qualifications of the individual members. Generally a commerce degree of an Indian University is expected. Persons holding equivalent certificates in commerce are also appointed. A few of the commerce teachers have training in teaching methods; but a large

²¹ *The Indian Central Banking Enquiry Committee, 1931—Majority Report*, p. 486.

proportion have no teaching degree. The question of training commerce teachers to teach commercial subjects is as yet untouched in India. If a man has a commerce degree or its equivalent, he is regarded as fit to teach. This defect has to be remedied, not only in high schools but in the special commercial schools too.

D. PRESENT POSITION OF COMMERCIAL EDUCATION.

The Government commercial schools are under the direct control of the Department of Public Instruction. The immediate administrative and inspecting officers are the Deputy Directors of Public Instruction in their respective divisions. Staff, equipment and other facilities are furnished by the Government on the recommendations of the Director of Public Instruction as needs arise and finances permit.

Those private institutions which are recognized by the Department of Public Instruction are inspected by the Deputy Directors. One of the advantages of recognition by the Education Department is that these private schools can obtain grants-in-aid from the Government on the recommendation of the Director.

Now there are four recognized commercial schools in the State. The Government commercial school at Mysore having been abolished, that at Bangalore is the only one under the direct management of the Education Department. The latter has steadily progressed since its inception in 1913. In 1929-30, there were 111 pupils on the roll. Distributed by vocations, they classified as 60 Government servants, 9 merchants, 22 private employees, 9 landlords, 4 artisans, 3 lawyers, and 4 others. The Government servants still hold the major field because the Government still forms the largest employer of clerks and other officials who have to have a good knowledge of one or more of the commercial subjects taught there. These subjects are (1) accountancy and auditing, (2) banking, (3) business methods, (4) shorthand, (5) typewriting, (6) commercial history and economic geography, and (7) English composition. The qualifications of entrants have also increased steadily. One was

a B.A., three had two years college (Intermediate Examination), four had one year college (University Entrance), 72 passed the high school examination (S.S.L.C.) and only 31 had not graduated from the high school.

The Aided Commercial School at Bangalore, the premier commercial institution started by Mr. Naranaiya in 1897, has gradually expanded and is earning a government grant of Rs. 480 per year. The enrolment on 31st March 1930 was 157, of whom 7 were girls. The founder of the school still continues to be at its head. The subjects taught are typewriting, shorthand, accountancy, banking, methods of business and economic geography. In addition to sending students for the Mysore Commercial Examinations, this school sent in 1930 five pupils for the examination in shorthand conducted by the Indian Merchants' Chamber and 25 pupils for the examinations conducted by the London Chamber of Commerce in the various commercial subjects including company law, and commerce and finance.

In Mysore City, the field is almost entirely open to private schools of commerce after the abolition of the Government commercial school there in 1930. The Champion Metropolitan College of Commerce had 119 pupils on 31st March 1930. The Principal reports that the number of pupils who take only one subject is decreasing and that enrolment for really commercial subjects like accountancy, auditing, banking, etc., is increasing. This is an indication that people are becoming more alive to the needs of modern commerce and that commercial firms are earnest in employing those who are proficient in commercial subjects. If the men in business demand a good knowledge of these subjects, intelligent and capable students who now think mostly of government service will flock to commercial institutions and qualify themselves very highly.

The Brighto Institute of Commerce is the second private school in Mysore City. It had 67 pupils on 31st March 1930. "In addition to the Mysore Government Commercial Examinations, the school also prepared and presented candidates for the examinations conducted

by the Incorporated Phonographic Society, London, for Typewriting."²²

In addition to these four schools, one government and three aided, there are a number of unrecognized schools of commerce started by individuals for teaching simple subjects like shorthand, typewriting and book-keeping. Sometimes a man starts a school for teaching typewriting alone or for giving practice in shorthand to those who desire to secure more speed and proficiency. They coach pupils in some elementary commercial subjects to enable them to appear privately for some examination or other. The number of such schools is not known. They exist not only in the bigger towns like Bangalore and Mysore but they are found in smaller places like Davangere, Tumkur and Nanjangud. They spring up easily and sometimes disappear quickly too. They, however, serve to give some extra training to those who have once failed in some examination or other, or for giving more practice to those who need it. Since they have no recognition of the Department of Education, they are without any supervision. Their efficiency is therefore not determined. They exist for what they are worth.

E. COMMERCIAL EXAMINATIONS.

Before 1913, those pupils who received training in commercial subjects in the State had to appear for examinations conducted by the London Chamber of Commerce or the National Union of Teachers of England. In this year, not only were Government commercial schools established, but a State Board of Commercial Examinations was constituted to examine candidates who underwent training in commercial subjects in any commercial schools in the State and grant them certificates. There were three grades of examinations, the elementary, intermediate and advanced which were instituted in 1913, 1914 and 1915 respectively. Since the formation of the State Board, it has been possible to adapt commercial education according to the needs in the State.

²² *Report on Public Instruction in Mysore, 1929-30*, p. 50.

About 1920, there was a revision of the courses of studies in commercial subjects. The three grades of examinations were done away with; and only two, the "pass" and "honours" courses, were substituted and examinations conducted in these.

While students in the State generally appear for the Mysore Government Commercial Examinations, nothing prevents any pupil from appearing for examinations conducted by the Commercial Boards in other parts of India or in England. As a matter of fact many pupils do take external examinations and obtain certificates for what they are worth.

F. SUMMARY

When commerce was more or less limited and was fairly simple, the need for modern commercial training was hardly felt. In recent years, especially during the last two or three decades, factories and large commercial houses, transport companies and banking concerns have sprung up necessitating the employment of clerks and officers who have modern commercial training.

While the early attempts, especially during the first decade of the present century, in organizing commercial education in the State stand to the credit of private agencies, the State Government was not however too slow to enter the field and to start commercial schools imparting instruction in the vernaculars and in English. In the matter of lead by private people, Mysore is on a par with many other countries, *e.g.*, the United States of America, England and Germany.

From 1913 to 1930, there were two Government commercial schools, one at Bangalore and another at Mysore. From June 1930, the latter was abolished, thus concentrating Government efforts at Bangalore. The vernacular classes for commerce training did not become popular among the business men and were abolished after a fair trial of four to seven years in the various places.

At present there are three private commercial schools. The Aided Commercial School at Bangalore started by

Mr. Naranaiya in 1897 and The Champion Metropolitan College of Commerce, Mysore, receive grants from the Government. Brighto Institute of Commerce, Mysore, is recognized by the Department of Education but is not as yet receiving any Government aid. In addition to these, there are a number of small and unrecognized private commercial schools teaching one or more subjects which are most popular in the commercial sphere. They work mostly for profit.

There is a State Board of Commercial Examinations appointed by the Government and functioning under the administrative supervision of the Director of Public Instruction. It conducts examinations in commercial subjects and issues certificates of the "pass" and "honours" grades. A few students appear for examinations conducted by outside agencies too.

The total number of pupils in the Government and private recognized commercial schools was 511 on 31st March 1930. In 1910, the enrolment was only 198. So vast is the progress in two decades.

CHAPTER V.

Basic Theories of Vocational Education.

A. STATE AND VOCATIONAL EDUCATION IN MYSORE.

(a) *Meaning of Vocational Education.*

EVERY person, when he comes to the earning age as determined by the standards prevailing in the society in which he lives, has to pursue a calling or vocation for the purpose of earning a livelihood. Any one who fails to work and who has therefore to live on the earnings of others is a burden to society, a social parasite and an economic waste. In order that every normal person may contribute his own share of productive labour to general well-being, society has made from time to time certain arrangements by which each individual may be trained to do the work which it has assigned to him or which he himself chooses to follow on his own initiative. This training is vocational education.

David Snedden defines¹ it thus : " Vocational education is any form of education, whether given in a school or elsewhere, the purpose of which is to fit an individual to pursue effectively a recognized profitable employment, whether pursued for wages or otherwise."

Thus the instruction in any system of vocational education may be given in a school or any other place where there are conveniences to impart it, but the main purpose must be to fit the individual to carry on work in some vocation. As Prosser and Allen put it : "...vocational education becomes that part of the experiences of any individual whereby he learns successfully to carry on any gainful occupation " and the process consists

¹ Snedden, David, *Vocational Education*, Macmillan Company, New York, 1920, p. 535.

of "a series of controlled and organized experiences used to train any person or persons for any given employment."²

Vocational education may be direct or indirect. Most of the training for vocations even to-day is got by people indirectly when they are working on the job; and where the vocations are simple and the processes are easy to learn, learning a trade while actually working on it without previous preparation is not difficult. But as vocations become more and more complicated and processes intricate, the need for direct vocational education becomes greater. "Direct vocational education obviously includes only those forms in which training for a specified vocation is the primary, central and controlling purpose and in which production, recreation, control, etc., are all regarded as secondary, minor or incidental purposes."³

(b) *Father-Son Apprenticeship.*

In Mysore from very early times society has been divided into occupational groups called castes, distinction being based mainly upon the particular vocation or occupation which each group followed. Division of labour was the principal motive. It was also thought that environment would foster tendencies in the people towards their caste or communal trades. This division of labour was also considered to be of help in the economic advancement of the people as a whole.

The carpenter's son was believed to inherit certain propensities in that trade from his father and other progenitors who followed that occupation for generations, and would also imbibe or acquire a certain knowledge about the vocation from his early years. When he attained adequate physical maturity to be of some assistance to the father in the trade, he would be a helper doing some simple work under instructions from the father as well as by seeing and imitating. By this father-son apprenticeship relation, the youth would gradually pick

² Prosser, C. A., and Allen, C. R., *Vocational Education in a Democracy*, The Century Company, New York, 1925, p. 4.

³ Snedden, David, *Vocational Education*, p. 535.

up the tricks of the trade and the skills involved in it, and would also learn the methods of marketing the goods produced. Thus there is both direct and indirect education, more of the latter than of the former. But it is not, and evidently cannot be so well organized and systematized, as instruction given in a regular school of carpentry.

Imitation and consequent "hit and miss" methods were the main processes of learning, with individual instruction at rare times in the form of hints. There was no analysis of the job, nor any systematized work units.

While the father taught the skills and the tricks of the trade, in most cases he gave no attention to the literary training of his son, because often he was himself illiterate. Most of the artisans and agriculturists were without any literary education. If there was a village school and if the parents wished it, they would send their children, more especially boys, to learn the three R.'s. Literacy was not considered a necessity, except by the trading class and higher artisans who had to maintain shop and trade accounts and hence required a knowledge of reading, writing and numbers. The father might supplement the literary equipment of the children in a few cases, especially among the more cultured homes. But any systematic instruction at home by the father among the agriculturists and artisans was very rare.

Even to this day, most of the vocational education obtained by the artisan, trading and agricultural classes is by the indirect educative process (called 'by-education' by Snedden) of father-son apprenticeship. There are a few industrial, agricultural and engineering schools established by the government of the State and private agencies which have been doing admirable work in affording systematized vocational education but as yet this organized instruction reaches but a very small fraction of the total population. The difficulty of extending systematized education to the vast mass of people is great, because only about 10 to 11 per cent of the people live in towns and cities and the rest in villages

which are "...as a rule self-contained. Land-owners, whether cultivating all or a portion of their lands, or letting them out to tenants; ...agricultural labourers who are often members of different castes from their masters; artisans with their simple traditional skill, and village menials and shopkeepers, all form an ordered hierarchy and make up the self-contained and primitive ...system of the typical Indian Village."⁴ Home-making is entirely on the mother-daughter apprenticeship basis. There is as yet no attempt, worthy of any mention, to impart home economics education of a practical type as is found in Europe or America.

(c) *Appreciation of Systematized Education.*

However backward the vast mass of people may be in education and in modern thought, once they actually realize the advantages of organized instruction in school they gradually begin to send their children there and to profit by the facilities afforded as is evident from the account of the growth of vocational education given in the preceding three chapters. Establishment of agricultural, industrial and commercial schools in a few localities has appealed to the practical sense of the people already, and their representatives in the District Boards, Representative Assembly and Legislative Council have not only been putting pressure on the Government for establishing more of such institutions but have been actively participating in working out their plans and voting funds as far as it lies in their power. They realize the benefit that organized school instruction bestows on the trainees in making them more efficient workers in their own lines and therefore wish that the same benefits be extended to the people of other localities too. This feeling is fairly widespread in India. The Educational Commissioner with the Government of India in reviewing the growth of Industrial Education in British Indian Provinces from 1922-27 remarks:⁵ "It appears to be generally recognized, however, ...that there is considerable scope for a further

⁴ *India in 1928-29*, Government of India, p. 72.

⁵ *Progress of Education in India, 1922-27*, p. 212.

extension of these facilities, even in a country which is predominantly agricultural rather than industrial." Opinions and sentiments of the people in British India have their corresponding influence on those in Mysore, and *vice versa*, and the aspirations therefore generally run parallel.

The Indian Industrial Commission of 1916-18 made a very characteristic observation of the change in attitude of the people of India towards industrial training. It said :⁶ "It has been objected that educated Indians will be unwilling to submit to the early hours and hard conditions of workshop training. This may, no doubt, have been the case in the past, but there are now numerous signs of a marked change in sentiment, and we feel confident that, if facilities are provided, increasing use will be made of them."

Indian leaders, competent to speak on the subject, have pleaded vigorously for more vocational education.

Sir M. Visvesvaraya, who was for six years Dewan (Chief Minister) of Mysore after a distinguished career as Superintending Engineer and Sanitary Engineer to the Government of Bombay, writes :⁷ "Linked with the elementary school system, there should 'be vocational' schools, to provide training in the elements of agriculture, commerce, handicrafts, carpentry, engineering, woodwork, smithing, and other trades for the boys, and cookery, dressmaking, nursing and housewifery for girls. Probably 60 per cent of the boys in rural areas would require agricultural training. Where a vocational school is not possible, arrangements might be made for the requisite subjects to be taught in continuation classes on special weekdays, or, perhaps, in the evenings." He then goes on to outline proposals for technical education at the secondary school level and in the university—and says :⁸ "Cities in the

⁶ *Report of the Indian Industrial Commission, 1916-18*, H. M. Stationery Office, London, p. 108.

⁷ Sir M. Visvesvaraya, *Reconstructing India*, P. S. King & Son, Ltd., London, 1920, p. 264.

⁸ *Ibid.*, p. 267.

United States and Canada show much enterprise in providing commercial and technical education. It behoves Indian cities to do likewise."

J. N. Gupta, a member of the Indian Civil Service, who has had experience of over thirty years of work in the districts of old and new Bengal, first as a District Officer and then as a Divisional Commissioner, says :⁹ "Clearly one of the most obvious and practical methods for promoting industry is to place at the disposal of industrialist young men who have a thorough practical technical knowledge of the industry concerned."

The appreciation of organized school instruction for vocations in Mysore is exemplified in the endowments given by public-spirited gentlemen to start agricultural schools at Chikkanahalli and Ramakrishnapur, the grants made by the District Boards of Tumkur, Bangalore, Mysore and Hassan Districts for the maintenance of industrial or agricultural schools established by the Government, and in the enormous increase of enrolment of pupils in the agricultural, industrial and commercial schools of the State (*vide* Chapters II, III and IV). In 1930, for a hundred seats available in the Engineering School at Bangalore, there were over 600 applications. On account of want of accommodation, a large majority of the applicants were refused admission. For the Hebbal Agricultural School, out of 96 applicants, only 28 were admitted. So great is the rush for vocational education.

(d) *Necessity of State Lead in Mysore.*

In a country where about 90 per cent of the population are illiterate and are therefore practically shut off from the current of modern thought and achievements, the lead for all progressive movements can and must come only from the educated few. If the better portions of even this literate 10 per cent are mostly in government service, that lead naturally must emanate from the government departments. Mysore, as much as the rest of India, is in this predicament where the best among the

⁹ J. N. Gupta, *The Foundations of National Progress*, The Elm Press, Calcutta, 1927, p. 194.

educated are in the government service. The history of the growth of vocational education in this State shows that the initiative in the organization and spread of industrial and agricultural education has been mostly that of the Government. Though the lead in commercial education came from private sources, the Government has been from the very beginning ready to encourage private enterprise by making generous grants from State funds. It has also done quite much in this field by establishing commercial schools.

J. N. Gupta considers:¹⁰ "A liberal policy of State assistance for indigenous industrial enterprise and for providing facilities for technical and commercial education...as one of the principal conditions of a forward policy for indigenous industrial enterprise."

The Government of India have accepted this principle for a long time. The Indian Industrial Commission of 1916-18 says:¹¹ "In their resolution of the 18th June 1888, on the subject of technical education, the Government of India pointed out that the education hitherto provided had been too exclusively literary in its bent; that industrial training was required in view of the necessity of securing a greater variety of occupations; and that technical education could be provided with advantage at once for industries which had already reached a comparatively advanced stage of development...The necessity of giving a more practical bias to general education was emphasized, and Local Governments were incited to take action in these directions."

During the Viceroyalty of Lord Hardinge, the Government of India were even more unequivocal in their policy of affording a lead. In their despatch to the Secretary of State, dated 26th November 1915, they said:¹² "It is becoming increasingly clear that a definite and self-conscious policy of improving the industrial capabilities of

¹⁰ J. N. Gupta, *The Foundations of National Progress*, The Elm Press, Calcutta, 1927, p. 180.

¹¹ *Report*, p. 93.

¹² *Ibid.*, p. 265.

India will have to be pursued after the war, unless she is to become more and more a dumping ground for the manufactures of foreign nations who will be competing the more keenly for markets, the more it becomes apparent that the political future of the larger nations depends on their economic position. The attitude of the Indian public towards this important question is unanimous, and cannot be left out of account. Manufacturers, politicians and the literate public have for long been pressing their demands for a definite and accepted policy of State aid to Indian industries; and the demand is one which evokes the sympathy of all classes of Indians whose position or intelligence leads them to take any degree of interest in such matters." The despatch emphasized " the need for an industrial policy which will enable technical education in India to produce its best results, and which will lighten the pressure on purely literary courses and reduce the excessive demand for employment in the services and callings to which these courses lead up." Finally the Government said:¹³ "After the war India will consider herself entitled to demand the utmost help which her Government can afford to enable her to take her place, so far as circumstances permit, as a manufacturing country."

The policies enunciated and sentiments expressed by the Government of India from time to time have had profound influence in the trend of events in Mysore. Especially from the beginning of the present century, the State has been giving considerable incentive for the progress of vocational education in agriculture, trades and industry and commerce by establishing institutions, the cost of maintenance being met from the State exchequer. It is also a well-defined policy of the State to encourage District Boards, Municipalities and private agencies in their endeavours by sanctioning suitable grants to them as aid. The officers of the State Technical Departments offer technical help and supervision to the schools and other educative organizations started by Local Boards

¹³ *Report*, p. 265.

and private agencies, to the latter if they are recognized by the respective Departments. The grant-in-aid system and the provision of technical advice and help by the Technical Departments are incentives to private institutions to come up to the standards maintained in Government schools, and they take advantage of them as quickly as they possibly can. This direct and indirect stimulation given by the State is in consonance with the policies adopted by the more progressive countries of the world.

(e) *State Lead in Other Countries.*

The increased competition of the more advanced countries of Europe in commerce and industry taught the American nation the supreme importance of equipping its citizens with the technical knowledge and skill required for modern trade and manufactures. Consequently the principle that the vocational education of the workers is an obligation of the State has been fully accepted in the United States, largely since 1910.¹⁴ Especially since then, the States have expended large sums of money in providing vocational schools.

The Federal Government has been liberal in providing for vocational education. The Morrill Land Grant Act of 1862 donated public lands to the several States and Territories for providing colleges of agriculture and mechanic arts. The Hatch Act of 1887 appropriated \$ 15,000 in money to each State for establishing agricultural experiment stations. Subsequent Acts raised the sum which in 1910 amounted to \$ 50,000 for each State. The Smith Lever Act of 1914 provided funds for agricultural extension work through the medium of land grant colleges.

A still greater lead was afforded by the Federal Government in 1917 when the Congress passed the Federal Vocational Education Law, known as the Smith-Hughes Law of 1917,¹⁵ entitled "An Act to provide for the promotion

¹⁴ E. P. Cubberly, *State School Administration*, Houghton Mifflin Company, New York, 1927, p. 385.

¹⁵ A. F. Payne, *Administration of Vocational Education*, McGraw-Hill Book Company, New York, 1924, p. 54.

of vocational education ; to provide for co-operation with the States in the promotion of such education in agriculture and the trades and industries ; to provide for co-operation with the States in the preparation of teachers of vocational subjects ; and to appropriate money and regulate its expenditure." Home-economics has been added in the body of the Act. The Act provides for investigations and surveys of education in agriculture, trade and industry, home-economics and commerce. A sum of about seven million dollars is expended in giving assistance to the States for the items mentioned in the Act on a fifty-fifty basis. The States and local units spend more than twenty million dollars. These vocational schools form an integral part of the existing public school systems of the States. There is not the least doubt that the money expended has been giving good return to the tax-payer. Cubberly remarks, "This new addition to our state systems of public instruction promises to bring us educational returns beyond expectations, and financial gains out of all proportion to its costs." The criticisms that have been levelled in this connection are not against the principle of Federal aid so much as against the methods of conducting the courses, the extent of supervision by Federal Officers—and the control of Federal Government over the expenditure of grants made to the States. The National Advisory Committee on Education appointed by the President in 1929 to inquire into the public policies involved in the activities of the Federal Government in the field of education made this recommendation:¹⁶ "For at least five years and until the results of the finance surveys recommended in Number 4 below are adequate to provide a sound plan for an equitable and economical method of federal financial assistance to the States, continue the special appropriations now in force for the purpose of aiding agricultural education and research, rural extension for adults, vocational education and similar educational enterprises, but leave the States free to expend such moneys for the specific purposes designated

¹⁶ *Report of the National Advisory Committee on Education, "Federal Relations to Education,"* 1931, p. 37.

without the requirement for matching of moneys and without federal authority to approve or reject State plans."

So far as Mysore is concerned, the question of Federal Aid does not arise now. When the proposed Federal Constitution for India materializes and the Mysore State enters into the Federal structure, the question will come up. A Federal Policy of Vocational Education for India has been tentatively proposed by me for public discussion.¹⁷ The lesson of the United States to Mysore is that the latter must not only continue the policy of State lead in vocational education but that Mysore should much more intensify its efforts in stimulating the progress of vocational education not only by making enhanced provision for it in the State-administered schools but by motivating Local Bodies and private agencies by more generous grants.

B. DETERMINATION OF THE CHIEF NEEDS TO BE MET IN MYSORE.

(a) *Increasing the Vocational Efficiency of the Masses.*

Mysore is a poor State like the rest of India. Three-fourths of the population live on the land, on which the pressure is regarded by economists as unduly severe. Professor V. G. Kale, an eminent professor of economics in India writes :¹⁸ "As things stand, 71 per cent of the Indian population is supported by pasture and agriculture and there are no signs that the pressure upon the soil is being lessened. Its tendency is perhaps in the other direction, people ousted from their traditional arts and industries by foreign competition turning to agriculture as the only means of livelihood and new industries not being large and numerous enough to absorb the population thus set adrift." The methods of cultivation are in most instances still primitive and very inefficient. The State being chiefly a dry-farmed country, slight adverse

¹⁷ *Mysore Economic Journal*, Vol. XVIII, 1932, p. 72.

¹⁸ *Ibid.*, Vol. I, 1915, p. 49.

changes in the seasonal rains affect the poor farmers enormously. The average holding of a farmer being only $6\frac{1}{2}$ acres, it is extremely difficult for him to make anything like a decent living from the land. The average earnings per head of the population per year has been estimated to be only Rs. 35¹⁹ or roughly ten dollars. One of the methods of improving the economic conditions of the people is to make the land produce a great deal more than it does now by the adoption of modern and more efficient methods of agriculture. The establishment of industries depends upon the production of raw materials from the land as much as from the mines. Therefore increased agricultural output is essential for industrial development too. Moreover, if the agricultural classes become more prosperous and can have savings adequate enough to purchase commodities which may make their life happier, they would be able to buy the products of industry. To this extent, industrial advancement is dependent upon agricultural progress. An efficient system of agricultural education through schools and extension agencies is therefore a paramount need in this eminently agricultural State.

In the organization of agricultural education, greater prominence will have to be given in the initial stages to the extension movement and to demonstrations than even to agricultural schools, partly because most farmers, being illiterate, are not able to profit by school instruction, and more so because the conservative minded cultivator of India can be convinced only by actual demonstrations and by results practically achieved preferably on his own farm. Agricultural schools are, however, indispensable for training the farmers' sons who have completed at least primary education and for training extension workers, and their importance can never be underrated.

The Royal Commission on Agriculture in India (1928) remarks:²⁰ "The agricultural departments, throughout

¹⁹ *Agriculture in Mysore*, 1926, p. 10.

²⁰ *Report of the Royal Commission on Agriculture in India*, 1928, p. 145.

their existence, have not failed to realize that, in a country in which illiteracy is widespread as it is in India, the only hope of convincing the cultivating classes of the advantages of agricultural improvement is by ocular demonstration." The Commission also recommends²¹ that, while the establishment of a farm in each district for the general purposes of the Agricultural Department, including demonstration, is desirable, the staff and funds may be more usefully employed in demonstration on the cultivator's own land.

The industrial advancement of Mysore is taking place only too slowly. A preponderatingly agricultural country cannot hope to raise the standard of living of the masses unless the raw materials produced in the land are as far as possible converted into manufactured goods there alone. One of the ways of doing this is by giving encouragement to and training for cottage industries which the cultivator can take up during his spare time. This training is more or less on the artisan level. Schools for teaching industries like hand-loom weaving (using hand as well as electric power) and trades like carpentry and smithy have to be established in all the important centres of population. While the Government may continue the present artisan-level industrial schools and may make them more efficient, the District Boards may be encouraged to start similar schools in other centres, the Government giving grant-in-aid on the basis of fifty-fifty. This policy will stimulate local endeavour and subserve local needs. This policy will make the local leaders take interest in organizing instruction to suit local industries. Ideas of enhancing material prosperity through industrial advancement and industrial training will go home to the people if they manage the institutions meant for them. A network of such schools spread over the whole State will go a long way in making artisan labour more efficient. Manufacture of simple but better agricultural implements and household articles will be greatly stimulated.

²¹ *Report of the Royal Commission on Agriculture in India*, 1928, p. 165.

Practical instruction in the middle and high schools will have to be further extended to give the pupils a bias towards vocations. Though these pupils may not become immediately proficient in any trade, the training will be highly useful in acquainting them with the techniques and skills in the vocations and in making them appreciate the work of the agriculturist, trader and artisan. Out of every five boys in the middle schools, only one proceeds to the high school and the rest distribute themselves in the multitude to earn their livelihood. This little training will serve to orientate their minds towards improved modern methods in their respective lines and help towards augmenting vocational efficiency of the masses. About half of the high school pupils stop studies at that stage. Practical instruction for them would be very helpful in disseminating ideas of industrial advancement among the people at large.

"Home-economics education may be defined as that form of vocational education which has for its controlling purpose the preparation of girls and women for useful employment as house-daughters and home-makers engaged in the occupations and the management of the home."²² Home-making is a composite vocation requiring diverse forms of skill and of related knowledge. In Mysore most women follow it for making their own homes. There are a few that do part of the duties of a home-maker for wage-earning purposes. For both these types of girls and women, home-economics instruction is essential.

Home-economics instruction of a practical type is almost non-existent in the Mysore schools. A few girls' schools may teach sewing and knitting. Eight home-industries classes started in Mysore and Bangalore are like a drop in the ocean. The vast majority of the population have homes built in the same manner as they were a thousand or two thousand years back. In rural areas a resident middle-class, such as is found in the urban centres, is practically non-existent and even the few

²² Federal Board of Vocational Education, Washington, D. C., *Home-Economics Education*, Bulletin 28, 1928, p. 8.

comparatively rich homes have most primitive and often unhygienic methods of house-keeping. In the urban areas, the upper and middle-classes are living relatively more decently. Yet their women have no organized training in house-keeping. Differences in customs and manners, in food and clothing, no doubt, make it difficult to organize practical home-economics courses in the manner in which they are established in America. But if the common elements are determined and are attended to in the beginning, a higher common standard can be gradually built up.

As the Federal Board of Vocational Education in the United States puts it:²³ "A study of the responsibilities involved in the maintenance of family life shows certain common responsibilities to be discharged in all households, notwithstanding their various economic and social levels. All families must be fed, clothed, and housed, and the income wisely expended. Children must be reared and trained, normal health maintained, the sick cared for when such emergencies arise, and wholesome family relationships sponsored. Certain phases of these responsibilities, therefore, represent fields of training for which facilities must be provided in vocational schools."

The want of adequate knowledge of diet values and of the scientific relation of diet to disease according to Indian conditions would undoubtedly be considered to be a great deficiency in the teaching of practical home-economics. A little investigation has been just commenced. Introduction of home-economics into schools may stimulate further research.

Commercial education for the small trader is a really pressing problem. Vernacular classes in commercial subjects started between 1916 and 1922 for adults were not popular and hence were abolished. The small-trader does not seem to feel the need for modern methods of

²³ Federal Board for Vocational Education, Washington, D.C., *Plant and Equipment for Vocational Classes in Home-Economics*, 1927, p. 1.

book-keeping and salesmanship. Mostly, he is apathetic and is content to follow traditional methods. His interest can be awakened only slowly with the growth of commerce and trade, with the raising of the standard of living of the masses and with the advancement of his own education in a liberal sense. In the meanwhile, elements of commercial subjects of immediate practical value to the small-trader may be usefully introduced in the middle schools for practical instruction so that a certain amount of bias towards modern methods may be imparted to the younger generation. Since the medium of instruction in this stage of education is the vernacular, modern practices in commerce can be transmitted to the mercantile community indirectly by this process.

A basic factor which influences economic welfare of the masses is literacy. Any country which has a population of 90 per cent illiterates can hardly expect to make any adequate or rapid progress in any field. The Industrial Commission of 1916-18 stressed the importance of the primary education of the workers and recommended:²⁴ "Compulsory education should be introduced for all classes of children in areas where this is feasible." It further said:²⁵ "This is a duty which, we think, rightly devolves on local authorities and on government.... and we need only support the proposal that, when private employers undertake this task, they should be assisted in every possible way, including the allocation of grants-in-aid by the local Governments." The Royal Commission on Agriculture in India of 1928 remarks:²⁶ "Without a satisfactory all-round advance in primary education, there can be little hope of any widespread economic progress." The Royal Commission on Labour in India (1931) says:²⁷ "In India nearly the whole mass of industrial

²⁴ *Report of the Indian Industrial Commission, 1916-18*, p. 237.

²⁵ *Ibid.*, p. 97.

²⁶ *Report of the Agricultural Commission*, p. 514.

²⁷ *Report of the Royal Commission on Labour in India, 1931*, p. 27.

labour is illiterate, a state of affairs which is unknown in any other country of industrial importance. It is almost impossible to over-estimate the consequences of this disability, which are obvious, in wages, in health, in productivity, in organization and in several other directions. Modern machine industry depends in a peculiar degree on education, and the attempt to build it up with an illiterate body of workers must be difficult and perilous. We would emphasize the fact that, precisely because of this, the education of industrial labour should receive special attention."

Primary education for the masses is therefore indispensable for advancement in any economic field—agricultural, trade, commercial, industrial, home-economics, or labour. The Government of Mysore has been always alert to this problem. A compulsory education regulation was passed in 1913 and was made applicable to 240 centres in the State. But want of adequate finances stood in the way of furnishing enough school houses and teachers, and hence the regulation could not be enforced even on this limited scale.

In 1930, a more comprehensive Elementary Education Regulation was passed, handing over the control of this stage of education to the District Boards and the larger Municipalities. It is expected that with the co-operation of the State and the Local Bodies it may be possible gradually to extend primary education throughout the State and eventually to make it compulsory.²⁸ The policy of the Government is clearly indicated in their statement:²⁹ "Perhaps the most outstanding feature of social development in the State in recent years has been the unanimous demand for greater facilities for Elementary Education. Government have definitely declared it to be their policy to provide for the steady development, expansion, consolidation and improvement of elementary education.... Though universal elementary education is the ultimate goal, the immediate objective

²⁸ *Report on Public Instruction in Mysore, 1929-30*, p. 42.

²⁹ *Ibid.*, 1928-29; p. 5.

will be the provision of one Primary School at least to each Village Panchayet Area in the course of the next ten years." No declaration can be more definite.

(b) *Increasing the Vocational Efficiency of the Supervisor Class.*

The Supervisor class is above the skilled workman and the ordinary artisan. In Mysore this class can be divided into three categories—(1) those who have to supervise the work of the common labourers in factories and to give the latter guidance in their operations, (2) those who have to work outside factories among the artisans and agriculturists spreading knowledge of improved methods in their respective callings, and (3) those who become contractors and their assistants in building trades or in other kinds of engineering works—electrical, mechanical and civil.

The supervisors or foremen employed in factories such as those for the manufacture of cotton, woollen and silk goods are generally drawn from graduates of the Victoria Jubilee Technical Institute of Bombay or other similar institutions imparting instruction in textiles and allied industrial subjects. A few men in the lower grades come from the ranks of ordinary workmen by dint of hard work and experience; but they evidently cannot rise very high for want of systematic training. Facilities have to be provided for the further training of such foremen in the State.

For the training of supervisors who have to do organization and extension work among the artisans and agriculturists, some facilities do exist in the agricultural, industrial, engineering and weaving schools within the State. These facilities must be augmented. The efficiency of training must also be improved, by the addition of up-to-date equipment and the provision of more staff.

The vast body of contractors and their assistants in building trades and engineering works have been trained by the "hit and miss" method of apprenticeship under some senior contractors and have had very little technical

preparation for their vocations. In recent years, however, the graduates of the engineering school and the university engineering college are beginning to realize the vast opportunities open to them in this realm for building up a successful career in life and a few have taken to this calling. Instruction has to be organized for those who are already contractors, especially for those who are sufficiently young to profit by that instruction. If the Government entrust their work only to qualified contractors, that will be enough incentive to them to attend these classes and qualify themselves properly for their vocation. When the Government began to appoint in some positions, as clerks and officials, only those hands who had the requisite knowledge of commercial subjects, those employees who had pretty well advanced in their service took courses in commercial subjects and qualified themselves suitably to earn higher salaries. If the Government gradually enforce technical qualifications for contractors and their assistants, a similar change will take place and greater efficiency will be wrought.

(c) *Training for Leadership in Vocations.*

Though there is a college of engineering in the university of Mysore and an agricultural school, reputed to be of the college level, under the control of the Department of Agriculture, great leaders or initiators of industry have not yet been produced in the State to the extent that one witnesses in the Western countries. The engineering college, with its branches in electrical, civil and mechanical engineering, has of course supplied efficient operatives for many concerns. Some of its brighter alumni have provided leadership in many branches of industry and building trades. Those alumni who have been appointed in the State public works and other concerns have not only transacted routine work efficiently but have provided efficient engineering service in constructing dams across rivers for storing water for electrical power and irrigation purposes, in the iron factory at Bhadravati, in railways, in electric generating stations and in various other branches. This is good as far as it goes. But what the country demands to-day is a body of

technical experts who are able to devise new machinery, to make improvements in the old and to do research in the various phases of industrial techniques and processes. To secure this end, it is very necessary to organize technological courses as an integral part of the university college of engineering. Instruction is essential in industrial engineering and applied chemistry, with emphasis on matters pertaining to the industries actually established in the State and to those which are likely to flourish if they are organized when competent hands are available to carry on their work. Sir M. Visvesvaraya, who investigated this question recently, says:⁸⁰ "A beginning in the highest branches of technology is our greatest need and I have therefore given preference to such training in this note....Our resources are so slender that for a generation to come we may not be able to build up any single branch or faculty to the scale of excellence noticeable in institutions like the College of Technology in Manchester or Massachusetts Institute of Technology in Boston. If a beginning is not made now, we shall be missing a great opportunity."

The engineering college must organize courses dealing with the manufacture of machinery that is widely used in the State. The Staff must also be provided facilities for research in every branch. There are many problems of engineering peculiar to the country, such as road-making and railway construction in the mountainous regions, harnessing water-falls to generate electrical power and affording sanitary conveniences to the people. Research may throw a flood of light on achieving these in a more efficient and economical manner than we do at present.

Of course mere trained experts, however able and willing, cannot achieve the industrial advancement of the State unless there are financiers prepared to start large-scale manufactures. But it is submitted that if experts are available, they will be absorbed somewhere and improvements will gradually take place.

⁸⁰ *Mysore Economic Journal*, Vol. XIV, 1928, p. 236.

That there is need for highly trained experts who will help in producing goods of daily use is clearly borne out by an industrial survey made recently by the Department of Industries. The Director of Industries, while recording the enormous development in certain industries and in commerce during the last few years, is explicit in disclosing the weak points. He says :⁸¹ "The tanning industry has been content to manufacture half-finished leather....Excepting the manufacture of soaps and perhaps white-lead, there is no chemical industry worth the name and the most common necessities of civilized life are being imported from abroad. The resources of our forests are not fully utilized and some of the timber most suited for the manufacture of high grade furniture is being exported in the raw state. The lac industry has not yet outgrown its experimental character. The attempt recently made for the manufacture of matches has so far proved abortive. The existence of a large iron works and several engineering workshops, both Government and private, has afforded no stimulus to the manufacture of machinery, and the most simple tools and plant are imported from abroad. Although a highly efficient Electrical Department has been functioning for over quarter of a century, private enterprise has found no call towards the manufacture of simple electrical goods and appliances. Even in the field of agriculture there is stagnation in important respects. The acreage under paddy (rice) has not increased and the dependence of the State on outside supplies of an important food article is increasing in a disquieting measure. About 20 per cent of the rice required in the State is imported from outside as against 8 per cent fifteen years ago. The sugar industry shows no signs of development." The above is a dismal picture. If properly qualified technical experts are trained and if the different manufacturing concerns are encouraged to employ them, much improvement can be effected.

⁸¹ *Report of Industries and Commerce Department, 1928-29*, p. 2.

In the matter of agriculture, too, there must be a college of agriculture which will train leaders in that field. Of course in the beginning the tendency for the graduates turned out from it would be to seek government service; but as time goes on, they will become pioneers in improving agriculture. As posts in government service become rarer, those who join the agricultural college for purposes of State service will become less in number, and those who desire to conduct agriculture as a life-activity on their own farms will become larger. This college can be used for doing research in home-economics and for training leaders in that branch.

What the Land-Grant Colleges of the United States do for agriculture is summed up thus:³² "The objectives of higher education in agriculture are increasingly and properly those of preparing: First, research workers in the scientific and social fields related to agricultural production and distribution and to rural life; second, extension workers for service in the dissemination of knowledge concerning the applications of scientific and economic truth to the problems of rural living; third, workers in all types of business, and commercial activities related to agricultural production, distribution and service; fourth, teachers of vocational agriculture and science in the public high schools; fifth, public servants in the investigating and regulatory departments of the State and National Governments; and sixth, overseers and managers of specialized and large-scale farm enterprises."

The future college of agriculture in Mysore may have similar objectives in view.

C. VARIETIES OF VOCATIONAL EDUCATION TO BE PROVIDED.

The varieties of vocational education to be provided by schools depend upon (1) the material needs of the people at large, (2) the extent to which pupils who may receive such education will utilize the instruction for the

³² *Survey of Land-Grant Colleges and Universities*, Vol. I, Bulletin 1930, No. 9, U.S. Department of the Interior, Washington, D.C.

welfare of society as much as for their own earning purposes, and (3) the lack of other agencies, such as effective apprenticeship, etc. The principal occupations³³ followed by the people are :

(1) Agriculture, Forestry and Animal Husbandry providing work for dairy-farmers, farmers, stock-raisers, horticulturists, owners and managers of log and timber depots, foresters and fishermen ;

(2) Extraction of Minerals providing work for foremen, overseers, inspectors, operators, officials and managers and labourers ;

(3) Manufacturing and Mechanical Industries engaging blacksmiths, carpenters, electricians, plumbers, masons, metal workers, shoe-makers, chemical industry operators, etc. ,

(4) Transportation with branches, namely, water, road and railway transport, and telephone and telegraph communication ;

(5) Trade which engages bankers, brokers, clerks, insurance agents, steno-typists, salesmen and managers ;

(6) Public Service affording work to civil-servants, police, soldiers, sailors, marines and a host of others ;

(7) Professional Service engaging engineers, doctors, lawyers, teachers, architects, chemists, assayists, sculptors and such others ;

(8) Domestic Service and Personal Service providing living to hotel-keepers, barbers, laundry operatives, mid-wives and nurses ; and

(9) Clerical Occupations engaging book-keepers, cashiers, accountants, stenographers and typists and so on.

The increasing application of science to industry, nay to every phase of modern life, and of the scientific and technical procedures to every action in civilized society has made it imperative to organize systematic and

³³ The Occupations are as enlisted in the United States Census of 1920.

scientifically based instruction for pursuing every occupation. Even scavenging and sweeping the streets in advanced societies requires a certain amount of technical training on the part of those that follow these vocations whether this training is given effectively in schools or elsewhere. In Mysore, the need for technical training for many of the occupations listed above is being felt, especially by people who are more progressive in their outlook and more profound in their ambition.

The percentage distribution³⁴ of population in Mysore by occupations is as follows :—

(1) Agriculture, forestry and animal husbandry	79.82
(2) Extraction of minerals	0.84
(3) Industry	7.28
(4) Transportation	0.69
(5) Trade	4.38
(6) Public Service	2.74
(7) Professional Service	1.61
(8) Domestic Service	0.79
(9) Others	1.85
Total ..	<u>100.00</u>

(a) *Agriculture and Animal Husbandry.*

Agriculture, forestry and animal husbandry are pursued by nearly four-fifths of the population. Consequently, these subjects must occupy the highest attention of educators. Out of a total revenue of Rs. 37,500,000 in the State in 1929-30, land contributed Rs. 13,400,000³⁵; that is, land is responsible for nearly a third of the State proceeds. Still, the opportunities afforded to the cultivator for improving his vocational efficiency are considerably less than what he deserves on account of the importance of his vocation to State revenue.

Courses of instruction for growing the principal food grains and other agricultural products of the State should

³⁴ *Census of India, 1921, Vol. XXIII, Mysore, Part I, p. 124.*

³⁵ *Mysore Administration Report, 1929-30, pp. 8, 58.*

be instituted on a wide scale. Livestock form a very important item of the wealth of the farmer. The Agricultural Commission of 1928 says:³⁶ "Although the exports of cattle and cattle products are very small in comparison with those of such nations as the Argentine, Australia or the United States of America, in none of those noted stock-rearing countries are cattle of more importance to the home population than they are in India." It is a notorious fact that the breed of cattle has deteriorated considerably in recent centuries. Lord Meston says:³⁷ "Very little selective breeding is done, and the stock is deteriorated to the last degree." The ignorant and poor farmer does not pay enough heed to this problem. The Commission remarks:³⁸ "It is only the minority who contrive, in spite of their difficulties, to keep their plough-cattle really well. Others keep their cattle in condition when seasons are good and out of condition when seasons are bad. Others, again, never show reasonable care for their plough-cattle." Milk cattle are no better maintained. Cattle diseases are rampant and carry a heavy toll annually. The condition of other useful livestock like sheep is no better. Animal husbandry should therefore form a very important item in any scheme of vocational education in Mysore.

Forests yield over four and a half millions of rupees to State revenue. "In recent years industries depending on forest products, major and minor, are coming into greater prominence and form an important factor in the economic development of the country."³⁹ The Mysore Iron Works uses firewood for preparing charcoal required for smelting the ore. Sandalwood is an important item of wealth. Timber useful for building trades, furniture, cart-manufacture, railway sleepers and electric posts is plentiful. A number of other forest products of

³⁶ *Report of the Royal Commission on Agriculture in India*, 1928, p. 169.

³⁷ Lord Meston, *Nationhood for India*, Oxford University Press, 1931, p. 62.

³⁸ *Report*, p. 192.

³⁹ *Report of the Forest Department in Mysore*, 1928-29, p. 43.

industrial importance are available. The proposed Technological College will have to investigate the possibilities of arranging suitable courses of instruction to exploit this wealth. The instruction here would be of college level.

(b) *Industry.*

Next in importance comes industry. Distinction must here be made between cottage industries and industries carried on in factories by the application of power-driven machinery. The cottage industries are more or less of the artisan level. They are handicrafts. They generally provide a subsidiary means of income to the farmers whose agricultural activities do not occupy them their full time. But there are also artisans who engage themselves in handicrafts throughout the year as their sole vocation. The farmer artisans are almost wholly in rural areas. The full-time artisans are in rural as well as urban areas. The rural population being widely dispersed the problem of providing them vocational education is a difficult one. The urban artisans live in compact areas and therefore the problem of imparting vocational education to them is not so complicated. If a school is started in their locality, a fair number of pupils can be attracted.

There is not much difference in variety of handicrafts in rural and urban parts. The products may differ in the excellence of their execution. In the urban centres, there has been the application of electrical power to cottage industries, but the machinery itself is simple.

Industries⁴⁰ on handicraft level followed in the Mysore State are weaving, tailoring, pottery, sericulture, metal work, mat-weaving, basket-making, perfumery, sculpture, ivory and sandalwood work, lacquer work, oil pressing, rope-making, lace work and rattan work. Carpentry, blacksmithy and masonry are widely followed throughout the State. Hence any scheme of vocational education must make provision for teaching these subjects. Some progress has been made in urban areas.

⁴⁰ K. N. Kini, *Report on the Educational Survey in Mysore*, 1927-28, pp. 304-07.

Rural communities have on the whole been not so fortunate. Greater attention will have to be paid to the interests of the latter population hereafter.

The industries producing on a large scale in modern factories are confined to urban areas. Cotton, woollen and silk manufacture, iron-manufacture, gold mining, rice-milling, soap-making, white-lead manufacture, printing, leather-work, brick and tile manufacture and metal-work are the principal ones. Textiles, printing, leather-work and metal work also engage quite a number of people, and consequently separate courses of instruction in these are necessary. The other industries are highly specialized or are conducted on a small scale. Therefore the training for them can be better provided in the plant, that is, on the job, since it may not be economical to institute courses for them.

For industrial advancement, there is great need for the training of foremen and supervisors with special emphasis on one or more branches of engineering—civil, electrical, mining, mechanical or industrial—depending upon the particular vocation that they are to follow. The building trade is gradually increasing on account of the people realizing the utility and comfort of living in more up-to-date built and furnished houses supplied with water and electricity. The shops and warehouses are also being modernized. Not only are railways, motor-buses and improved coaches opening inland places to modern things but they themselves require trained mechanics for construction and repair. Electrical power generation is on the increase on account of the demand of electricity for industrial concerns, for working water pumps of bigger cultivators, and the lighting of towns and even some villages. The total power generated in 1927-28 was 162 million⁴¹ kilo-watt-hours. Further generation of power by harnessing the Jog water-falls and by using the water-head at Krishnarajasagar Reservoir near Mysore are under contemplation.⁴² The

⁴¹ *Report of the Electrical Department, Mysore, 1927-28*, p. 3.

⁴² *Ibid.*, p. 14.

textile factories and other industries are gradually increasing their machinery and output. Filtered water supply schemes for smaller towns are forging ahead. The Mysore Iron Works, though at present affected adversely by the world-wide trade depression, is bound to thrive in due course, giving rise to many subsidiary industries. Irrigation works are also progressing. All these factors and many others are contributing to industrial advancement. Fortunately, the better educated youths are prepared to do manual work, if that will provide them adequate remuneration. Systematic training in the various branches of engineering and technology is indispensable for industrial progress.

(c) *Trade and Commerce.*

Since there are no industries of vast dimensions in the State, trade and commerce do not attain high proportions. Most of the traders are small shop-keepers. It is only in the cities and on the plantations that commerce of some magnitude is being carried on. The banks too are comparatively small. There are no big stores like the Macy's Store in New York, nor are there many insurance companies. There are a few modern manufacturing concerns which do require fairly well-trained business men and managers.

The trend, however, is in the direction of the development of industries and hence of trade and commerce. People are realizing that improvement in the standards of living can take place only if the natural resources of the country are utilized to the fullest extent to convert them into manufactured goods. Not only are smaller industries cropping up all over the State, but if capitalists of standing and of business reputation initiate larger industries people show willingness to subscribe the needed capital. It is due to this spirit that a few cotton, woollen and silk manufacturing mills have been started in recent years. The railways and roads are gradually increasing. Trade and commerce are likely to be augmented in the future.

However much the petty traders may be conservative towards following modern commercial methods, it is

necessary for the economic welfare of the country that constant and untiring efforts be made to educate them to follow modern practices. Vernacular courses in commercial subjects started between 1916 and 1922 for adults did not evoke their enthusiasm. The efforts must be directed at training the youths who are likely to follow trade as a life vocation. This means that commercial subjects must be taught in the middle and high schools. A system of commercial education has been in vogue in the high schools, the object of which is not so much to secure vocational competency in those subjects as to give a bias to pupils towards modern commercial practices and techniques. Such pupils as require vocational efficiency may proceed to the full-time or evening commercial schools for specialized and extended courses.

Time has come when commercial education should be extended to the masses. One of the ways of doing it is to introduce in middle schools very simple commercial subjects, such as will be directly useful to the small trader. Six periods a week are devoted to practical instruction at present in the second, third and fourth year classes. Commerce may be one of the courses in practical instruction. If these subjects are taught in a simple manner so as to be practically useful to the local trading community, the latter is sure to support the innovation. A beginning may be made with elements of book-keeping, commercial arithmetic, salesmanship, advertisement and insurance, all blended into one integral course.

Vernacular commerce classes for adults must be tried again in those centres where trade and commerce flourish. If properly qualified teachers, who know the practical aspects of business techniques, are appointed, the interest of the mercantile community may be drawn again. Here again the subjects must be of immediate importance to the merchants. Salesmanship, book-keeping, business methods, commercial accounts and methods of advertisement may be the subjects for such instruction. One essential ability for success in trade and commerce is dealing effectively with people, and the traders in Mysore

require this training to a large degree. "Natural aptitude and unconsciously acquired adaptations of the right kind serve to explain the success in business of men who have had little or no formal commercial training. Indeed, the success of those men who have unconsciously acquired these abilities in the pick-up process of business education has done much to perpetuate the idea that business can be learned only through the unorganized apprenticeship now prevailing. Until these key abilities are definitely determined through analysis or the effect of organized instruction in developing these abilities has been demonstrated, no substantial progress in organized commercial education on a prevocational or promotional basis for any but the skilled occupations can be expected."⁴³ How singularly do these remarks apply to Mysore!

The commercial schools are teaching now some subjects for which there is public demand. Accountancy and auditing, banking and economics, business methods, shorthand, typewriting, commercial geography, English composition, company law, commerce and finance, and book-keeping find place in one or the other of the four commercial schools. Courses in advertising, retail selling, salesmanship, secretarial work and insurance will have to be added in due time. The Indian business man has not understood as yet the full import of advertising. One may pass from village to village without noticing any advertising of even the most valuable articles being produced there. If the principles and practices of advertising are taught, much benefit will accrue to the nation. Moreover, advertising is a means of educating the public. But of course the responsibilities associated with it must also be realized by those engaged in that line. To use President Coolidge's words:⁴⁴ "A great power has been placed in the hands of those who direct the advertising policies of our country, and power is always coupled with responsibilities. No occupation is charged with greater

⁴³ Earl W. Barnhart, *Objectives and Problems of Vocational Education by Lee*, pp. 105-06.

⁴⁴ H. D. Kitson, *Commercial Education in Secondary Schools*, p. 27.

obligations than that which partakes of the nature of education. Those engaged in that effort are changing the trend of human thought....There can be no permanent basis for advertising except a representation of the exact truth. Whenever deception, falsehood and fraud creep in they undermine the whole structure." Schools of commerce must teach the real ethics of advertising.

(d) *Home Economics.*

The Indian woman is essentially a home-maker. She has not entered the professions to any large extent as have women in Europe and America. A few women work in modern factories and other industrial concerns as labourers, but the proportion of such is small. Even they are housewives after their work in industry is finished. So instruction and training for home-making as a vocation is most essential in Mysore.

To determine the varieties of home economics education, one must clearly understand the objectives to be aimed at. These objectives may be designated⁴⁵ as :

" (1) The development of handicraft skill in the operation of home-keeping ;

(2) The development of home managers capable of handling the labour, the financing, and the social relationships that rise in the family unit ;

(3) Preparation for specific gainful employment ; and

(4) Utilization of interest in home and family activities and relationships as a medium through which scientific and social education may be provided in combination upon the college level."

To develop the handicraft skill and managerial ability of women, home economics must be made a compulsory subject in middle and high schools for girls. Courses in the care of the home and its belongings, preparation

⁴⁵ United States Department of the Interior. *Survey of Land Grant Colleges and Universities*, Bulletin No. 9, 1930, p. 849.

of food, diet and nutrition, dress making, interior decoration, laundry, care of children, home nursing, home sanitation and household hygiene would be highly useful in making the Indian home more efficient and comfortable. To these may be added home finance (income, expenditure and family budget), use of insurance, lighting and water supply, social clubs and wise use of leisure. The main purpose of these courses is to provide instruction in the different occupations of home-making and in the arts and sciences related to those jobs. There is very little investigation yet conducted in many of these fields. There is no organized help rendered to the women comparable to that provided by the Good Housekeeping Institute and other similar institutions to the women of America. When schools teach household economics, the need for investigation will be more keenly felt and suitable arrangements for conducting the needed research will be made. The Government agricultural and biological laboratories may be drafted for this purpose. The agricultural schools and extension workers can afford the lead in diffusing the knowledge among the farmers' wives.

In addition to teaching home-economics to girls, classes for adult women must be started. They can be conveniently held in central places in the evenings. The subjects may be divided into short units, and the women can attend any course they like. Adult women, being actual home-makers, will more readily appreciate these courses provided they are conducted properly, that is in a practical way. Simple related knowledge must be imparted.

A very useful and a very necessary course in this field would be hotel-keeping. Many of the hotels in Mysore are so dirty and the methods of cooking adopted are so very insanitary that they may properly be regarded as breeders of disease. The managers care little for hygienic and sanitary conditions. The fact is that they are ignorant of these matters. They require training. The cooks and servants employed therein also need to be properly trained in their lines. If the Municipalities and District Boards would issue license only to those managers

of hotels who have a certain standard of training and who would employ cooks and servants that have undergone training devised for them, then a great reform in health and nutrition would be wrought.

In the beginning there will be great opposition to and criticisms against requiring hotel managers, cooks and servants to conform to certain training courses. But as people realize the efficacy of such a procedure in elevating the hygienic conditions of the places where they eat and in improving the quality of cooked food they get, public support will come in an unbounded measure.

In putting any scheme of home-economics instruction into effect, one chief difficulty that will arise is the making of estimates of household incomes and expenditures for various levels of society. In a place like Mysore, where poverty of the masses is rampant, organizing home-economics courses of use to very indigent homes is by no means either pleasant or easy. However much coat may be cut according to cloth, the insufficiency of income of the poorer folk for bare subsistence is glaring. However, some improvement in sanitary conditions and care of children can be achieved. The instruction for middle and wealthier classes will not be difficult. A survey of incomes and expenditures of the families at various economic levels will have to be made, and the courses designed to suit those families and their present needs.

While there will be some initial difficulties in organizing suitable courses in home economics to harmonise with the various levels of society and to suit the abilities and understanding of girls in the different types of schools, the one cheering sign of the times is the awakening of the women of India to their own needs. Women's conferences all over the country, including Mysore, have been agitating for more suitable education for girls. The All-India Women's Conference of 1927 passed the following two resolutions⁴⁰ having a direct bearing on home-making :—

⁴⁰ *Report of All-India Women's Conference on Educational Reform*, 1927, Scottish Mission Industries Co., Poona, pp. 23 and 37.

(1) That in all education of girls in India teaching in the ideals of motherhood and in the making of the home beautiful and attractive, as well as training in social service, should be kept uppermost.

(2) That alternative courses should be established to suit the needs of girls who do not intend to take up college education, these to include domestic science, fine arts, handicrafts and industries.

The Mysore Women's Conference of 1926 passed the following resolution⁴⁷ :—

“ That domestic science, suitable to Indian conditions, should be compulsory in secondary education, and greater facilities and encouragement should be provided for instruction in fine arts.”

Similar resolutions have been passed in the conferences of succeeding years, and so the pressure on the educational authorities is kept up.

D. CO-ORDINATION OF VOCATIONAL EDUCATION WITHIN THE ELEMENTARY AND SECONDARY SCHOOLS.

As described in Chapter I, the school system in Mysore comprises—

- (1) primary school of four grades,
- (2) middle school of four grades after the primary, and
- (3) high school of three grades, called fourth, fifth and sixth forms, after the middle.

After completing the high school, pupils enter colleges which are under the University of Mysore.

(a) *Nature Study, Drawing and Manual Work in Primary Schools.*

The children in the primary schools are generally between the ages of six or seven and ten or eleven years.

⁴⁷ *Report of All-India Women's Conference on Educational Reform, 1927, Scottish Mission Industries Co., Poona, p. 61.*

Those who are retarded or are enrolled late are older. In any case, most of the children in the primary schools are too immature to do any serious kind of manual work which is designed to impart to them vocational competency. The Board of Education of the Mysore Economic Conference has made this recommendation:⁴⁸ "As pupils attending primary schools are too young to receive vocational training, it is not desirable to introduce vocational courses in primary schools." Moreover, introduction of any systematic vocational instruction of even handicraft type in the nearly 5,700 primary schools in the State would be beyond the financial resources of the Local Boards and the Government. Therefore, simple nature study, drawing and manual work such as gardening, clay-modelling and paper folding, which now find a place in the primary school curriculum, should be depended upon "to develop the various sensory and muscular powers and sensory-muscular co-ordinations, besides exercising and developing the various mental powers of the children."⁴⁹

(b) *Primary Education and Vocational Efficiency.*

The need for imparting at least primary education to all classes of population for enhancing their vocational efficiency has been discussed to some extent in the previous sections. Only about 10 per cent of the population in Mysore are literate. The remaining 90 per cent cannot therefore make use of any printed matter for enhancing their vocational efficiency by obtaining knowledge of modern agricultural, industrial or commercial methods. The Agricultural Commission says:⁵⁰ "Without a satisfactory all-round advance in primary education, there can be little hope of any widespread economic progress So long as the level of general education remains as low as at present, the candidates for higher and technical training must be limited." It therefore recommends

⁴⁸ *Report of the Board of Education, Mysore Economic Conference, 1926-27, p. 8.*

⁴⁹ *Ibid.*

⁵⁰ *Report of Royal Commission on Agriculture, 1928, p. 514.*

the progressive adoption of compulsory education.⁵¹ The Indian Industrial Commission of 1918 attributed the delay of the progress of industrial development to the ignorance and conservatism of the uneducated workmen (*vide Report*, p. 96). The Royal Commission on Labour in India, 1931, emphasized the loss to industry due to the illiteracy of workers (*vide Report*, p. 27) and recommended: "For rapid progress the application of compulsion is desirable.... We recommend to municipalities that wards of this type (wards peopled by factory labour) should be regarded as having a special claim where compulsion can be applied. We would also call attention to the desirability of bringing the upper age-limit for compulsory education at least up to 12 years, the minimum age for factory employment" (*vide Report*, pp. 28, 29).

Radhakamal Mukerjee, an eminent economist of India, writes:⁵² "...arrangement has also to be made for imparting such general education as will enlarge the mental vision of the artisan while preventing him from falling into a clerical groove." R. K. Das, discussing the industrial efficiency of India, says:⁵³ "Next to ill-health, ignorance as indicated by illiteracy and inexperience or lack of training is the most important cause of industrial inefficiency, causing, as has been noted before, the loss of about one-fourth of India's national energy."

There is fair consensus of opinion that primary education for the masses is of vital importance for the increase of vocational efficiency in India and therefore in Mysore too. Now less than a third of the children in the State are in the primary schools. Facilities for primary education will have to be increased considerably, and compulsion gradually applied up to at least 12 years of age. The Indian Statutory Commission of 1928-29, commonly

⁵¹ *Report of Royal Commission on Agriculture*, 1928, p. 523.

⁵² Radhakamal Mukerjee, *The Foundations of Indian Economics*, Longmans, Green & Co., London, 1916, p. 398.

⁵³ Rajani Kanta Das, *The Industrial Efficiency of India*, P. S. King & Son. Ltd., London, 1930, p. 66.

referred to as Simon Commission, has made some significant observations⁵⁴ on this question: "Ordinary citizens in many provinces have shown a readiness not only to submit to compulsory education for a specified term of years, but to welcome it.... Universal compulsory education is for the present hardly a practicable policy, if only on grounds of finance, but the gradual application of the principle of compulsion.... is obviously the line on which a higher return of educational value is to be obtained. And that this policy has proved acceptable to many groups of the 'common people' who have come under it, is, in our opinion, the most encouraging feature of the period under review."

There is a fear in the minds of the poorer classes of agriculturists and artisans that, if their children were sent to ordinary schools, they would not take to their family vocations later. This fear has tended towards neglect of primary education of these children with consequent inefficiency in their occupations. The Indian Industrial Commission of 1916-18 remarked:⁵⁵ "A factor which has tended in the past to delay the progress of Indian industrial development has been the ignorance and conservatism of the uneducated workmen. The evidence tendered by employers was almost universally in favour of labour, both skilled and unskilled, that had at least received a primary education. This is given in countries with which India will have to compete and is a *sine qua non* in this country also. Some witnesses stated that the spread of education among the artisan classes tended to bring manual labour into contempt, and that the sons of artisans educated beyond the primary stage, showed a distinct tendency to forsake their fathers' callings in favour of clerical work...." The remedy lies in so shaping the educational system as to satisfy the needs of all classes of population, instead of placing too much emphasis on literary studies. Since primary

⁵⁴ *Report of the Indian Statutory Commission*, Vol. I, 1930, p. 387.

⁵⁵ *Report of the Indian Industrial Commission*, 1916-18, p. 96.

education is regarded as the minimum educational equipment for any vocation, this must be eventually regarded as preliminary to any kind of vocational education.

In the State industrial schools on the artisan level, no educational qualifications are demanded now from candidates for admission. Until universal primary education is introduced, this will have to be the procedure. Since reading, writing and figuring are taught to the pupils in such schools for an hour or two every day, the deficiency is covered to some extent. However, as the demand for admission becomes greater, these schools might demand primary education as the minimum preliminary to the training. This requirement will stimulate the artisan class to send their children to primary schools and to let them remain there until they complete the primary course.

(c) *Adjustment of Primary Schools to Local Vocational Needs.*

Most of the agriculturists and artisans are poor. Some of them think that the earnings of their children are more important than their education. So they keep them out of school. Even if the children are enrolled, they are withdrawn early. Out of 100 children that enter the primary first grade, only 16 reach the fourth grade,⁵⁶ the other 84 eventually lapsing into illiteracy.

With a view therefore to give opportunity to these children to engage themselves in their family vocations for a portion of the day and thus to add a little to their family earnings, the primary classes may be held for only half the day, the other half being free for children. The change may be effected only in those localities where the majority of the parents do so desire. This arrangement will tend to keep children in touch with their possible future vocations. The parents may also then take kindly to the elementary education of their children. Especially is this reform needed in rural areas. In another connection

⁵⁶ *Report on Public Instruction in Mysore, 1928-29, p. 42.*

I have made the following recommendation ⁵⁷ "..... the work in rural schools be so organized that the first and fourth (primary) classes may work during half the day and the other two during the other half. The children will then have sufficient time to work in the fields. A vocational bias will be indirectly fostered in the primary school boys and the children will not be estranged completely from their family vocational environment." This innovation will have to be introduced wherever there is public demand.

(d) *Vocational Middle and High Schools.*

Practical instruction for six periods a week has been introduced in some middle schools in the second, third and fourth year classes. As funds are made available, the scheme will be advanced. The object of practical instruction is not so much to impart vocational competency as to give a vocational bias to the pupils.

There is, however, need to bring into the regular school system a kind of institution which will impart vocational competency along with some instruction in general subjects, and in subjects related to the vocational subject.

When children complete the primary stage of instruction, they will be eleven years and above. Especially in the rural areas, the ages are higher and the pupils are physically more mature. They can undergo a system of vocational instruction by progressive stages. This may be imparted in what may be designated as 'vocational middle schools' for those pupils who are not fitted for a high school career due either to want of ability or to want of pecuniary means.

In the vocational middle schools, half the time may be devoted to practical work in the vocational subject on a useful productive basis, one-fourth of the time for related science and mathematics, and the remaining one-fourth to the study of civics, Indian history and geography. The basis for distribution of time suggested here is that which is laid down for all-day vocational schools in the United

⁵⁷ K. N. Kini, *Report on the Educational Survey in Mysore*, 1927-28, pp. 41, 42.

States.⁵⁸ The apportionment may be changed in Mysore after gaining some experience by actual working. In the high schools, practical instruction under the term 'vocational education' has been introduced for four periods a week in the fifth and sixth forms. This instruction is not strictly vocational. An appropriate term would be "practical arts education" [Chapter V, E (a)]. The object of this instruction is only to impart a bias towards trade, industry and commerce.

Just like the proposed vocational middle school, a new type of high school, called the 'vocational high school' will have to be established for imparting vocational education to those pupils who may not be fit to proceed to the university. Half the time may be devoted to practical work in the vocational subject on a useful or production basis, a fourth to related science and mathematics, and the rest to general subjects which will be useful to the pupil to make him a more cultured citizen. English, commercial geography, English history and civics may be the general subjects.

The vocational middle schools are meant for those children, who, having completed the primary grades, are to have a vocational course rather than a general education course. Similarly, vocational high schools are meant for those children, who having completed the general middle school education, are to have a vocational course rather than the usual high school instruction. The basis for selection to vocational and general schools is to be laid down by a judicious system of vocational guidance as discussed in Chapter VIII.

E. RELATIONSHIP OF VOCATIONAL EDUCATION TO PRACTICAL ARTS.

(a) *Difference between Vocational Education and Practical Arts.*

In any scheme of vocational education, it is very necessary to understand clearly the main purpose of imparting

⁵⁸ Federal Board for Vocational Education, *Trade and Industrial Education*, Bulletin 17, 1929, p. 88.

such instruction. The need for clarity arises because of the mistake that is often made in regarding any kind of manual work from simple drawing to efficient work in a well-organized shop to be vocational, whether the instruction has any bearing on securing efficiency or competency in any particular vocation or not. To illustrate, let us take gardening. Work done by children in the garden as part of their nature study activities in a general school is by no means vocational agriculture or vocational horticulture. No doubt the children engage themselves in the same pursuits as the cultivator. They dig, prepare the soil, water it, sow the seeds, watch the growth of plants and may even reap the fruit. The object here is to cultivate their powers of observation and their dexterity in handling tools, and to gain an insight into plant life and other concomitant natural phenomena. Their general knowledge is increased, their power of comprehension is heightened, and their appreciation of the work done by the cultivator in his fields and gardens is quickened. Although they perform some of the operations which a cultivator does, their work is not vocational. There is no idea here of securing vocational competency. They do not work in the garden for a livelihood or for profit as the cultivator does.

Similarly, if pupils in the middle and high schools engage themselves in weaving or in woodwork for four or six periods a week, the training cannot by any means be adequate to make them regular weavers or carpenters. The benefit that they really receive is an intelligent appreciation of some of the techniques and methods involved in these vocations. By performing these simple tasks, they cultivate correct ideas of and attitudes towards industry and build up certain useful skills and habits which may stand them in good stead later on in any vocation they may pursue. Discussing the purposes of hand work in industrial arts, Bonser and Mossman say:⁵⁹ "Here, the emphasis is upon ideas, attitudes and habits having to do with health, economic values, and social

⁵⁹ F. G. Bonser and L. C. Mossman, *Industrial Arts for Elementary Schools*, The Macmillan Co., N.Y., 1925, p. 17.

values, and the hand work is used to help bring out these values." These ideas and attitudes, and skills and habits are their important equipment for intelligent citizenship and for a proper appreciation of the ways in which man has been using natural resources to enrich his life and increase his comforts.

The practical instruction in general schools has therefore as its objectives the development of general knowledge, the cultivation of appreciation of the role of agriculture, industry, home economics and commerce in the life of the nation, and the affording of a certain bias towards vocations by fostering appropriate ideals, ideas, attitudes, skills and habits without claiming to secure any vocational efficiency. Judged from the point of view of creating a bias towards vocations, this practical instruction may be regarded as a fruitful method of exploration or try out in the vocational guidance of the pupils. As Bonser and Mossman observe:⁶⁰ "Hand work thus often serves as a means of approach to higher forms of industrial studies, as well as a means of carrying such studies forward with greater interest, understanding and personal appreciation of meanings and values."

D. Snedden has emphasized the function of practical instruction in general schools as distinguished from vocational education in the following words⁶¹ :—

"(a) The various forms of practical arts education as now given in schools are not properly vocational, although sometimes mistaken for vocational education, because they do not result, except by chance, in recognized forms of vocational efficiency, nor are they assumed to be given to persons who have defined vocational aims. The means and methods they adopt are not selected with a view to the preparation of the pupil for recognized callings.

"(b) Various forms of practical arts education have an important and valuable place in general or liberal

⁶⁰ F. G. Bonser and L. C. Mossman, *Industrial Arts for Elementary Schools*, The Macmillan Co., N.Y., 1925, p. 17.

⁶¹ D. Snedden, *Vocational Education*, 1920, p. 539.

education, as a means of enlarging general intelligence, developing sound appreciation of economic products, and, in part, in laying the foundations for vocational choice.

“(c) Practical arts education is sometimes termed ‘pre-vocational education’, because of the belief that a suitable programme of practical arts training will make important contributions toward the individual’s ability to choose a vocation wisely. Its value to this end depends largely upon the degree to which the individual has already developed vocational interest and a desire to choose a suitable vocation.”

Since proper terminology often goes far to elucidate the correct meanings of terms, it would be well to give appropriate names to “practical instruction” now offered in the middle schools, and to the incorrectly termed “vocational instruction” imparted in the high schools of Mysore. No vocational competency is aimed at in these courses. They are on the same level as the other arts subjects designed to offer a fair system of general or liberal education to the children. Therefore Snedden’s term ‘practical arts education’ would be more appropriate than practical instruction or vocational education. Practical arts education may then be divided into (1) agricultural arts education; (2) industrial arts education; (3) commercial arts education; and (4) household arts education.

(b) *Varieties of Practical Arts Education.*

The aims of practical arts education have been established as enriching the knowledge and experience of children of matters connected with the economic and social activities of man. The enrichment is secured by the building up of wholesome ideas, attitudes, skills and habits through actual participation in some of these activities conducted on a miniature scale as part of general education imparted in schools.

(1) *Agricultural Arts.*

Under agricultural arts, activities like home-gardening, rearing domestic animals, simple farm mechanics, raising

field crops on a small scale and marketing farm products may be taken up. Some of these activities may be carried on by the children in their homes or on their farms under the supervision of parents and of the teacher of practical arts. These home-projects, if carried on under suitable care, may be recognized for purposes of school credit. Rural children have adequate opportunities to carry on home-projects. The home-project method is a fruitful way of securing the co-operation of parents in the school activities.

If the agricultural arts are taught with a view to enhance the general knowledge of children in matters connected with agriculture and allied occupations, and to enable them to appreciate the economic activities and scientific principles contained therein, they may be inspired to visualize the vocational possibilities involved and may, later on, turn their attention to those pursuits. It is, however, not assumed that all who may receive agricultural arts education will become farmers.

(2) *Industrial Arts.*

Industrial arts education offers knowledge of industrial pursuits to children through actual participation in some of the general activities connected with trades and industries. Bonser says:⁶² "... the appropriate work in industrial arts centres about the problems and needs of consumers and citizens in six inclusive fields from which we supply ourselves with material commodities. These fields are those by which we provide ourselves with (1) food, (2) clothing, (3) shelter and home-furnishings, (4) utensils, (5) tools and machines, and (6) records or books and other publications."

There is here an overlapping of the four fields of practical arts. Such overlapping is only natural because life activities are so integrated with one another. Consequently, in the study of industrial arts all economic and social activities must be co-ordinated as far as

⁶² F. G. Bonser, *Industrial Arts for Public School Administrators*, Teachers College Publication, Columbia University, 1930, p. 15.

possible, although as the pupil progresses from the primary to the middle and then to the high school the units of work become more and more differentiated, intensive and based upon elementary scientific principles.

The subject of industrial arts education is of considerable significance to Mysore. The bulk of the population is engaged in agriculture and they pursue subsidiary industries of the handicraft level in their cottages during spare time. The artisans have their own arts and crafts handed down through generations, and they deserve to be encouraged. Their children need special stimulation, and that stimulation should be offered by the school through industrial arts.

In the rural areas especially, the farmer and the artisan are very much dependent upon each other. Frequently, the same person does the work of both. The activities of construction and repair work for the Mysore farms have not been analysed and recorded as has been done for American farms by experts like Struck⁶³; nor are the farm activities in Mysore so elaborate as in America. But they are adequate enough to demand a sound system of industrial arts for pupils in general schools.

On account of the importance of the subject, it would be well to emphasize the objectives of industrial arts education under two headings :

- I. General industrial experiences, and
- II. Exploratory industrial experiences.

Edgerton analyses⁶⁴ these two objectives as follows :—

I. General Industrial Experiences.—

- “(1) To develop ‘handy-man’ abilities through repair and construction work for home, shop and office use.
- (2) To assist in better choice and use of industrial products and service.

⁶³ F. T. Struck, *Construction and Repair Work for the Farm*, Houghton Mifflin Co., New York, 1923.

⁶⁴ Edwin A. Lee, *Objectives and Problems of Vocational Education*, pp. 318, 319.

- (3) To gain sympathetic attitudes toward other workers and their work.
- (4) To appreciate economic production by first-hand experience in production work."

II. Exploratory Industrial Activities.—

- "(1) To try out individual interests, inclinations, and abilities for industrial pursuits through typical experiences.
- (2) To make reliable studies of the conditions, demands, and opportunities in related occupations.
- (3) To provide for the individual needs of pupils who would not remain for academic education alone.
- (4) To help pupils more wisely to choose future courses in secondary and higher education."

Under industrial arts may be organized a large number of courses. Those activities, however, are to be preferred which are of immediate local importance and, then, those of importance for the State as a whole. These may be woodwork, metal work, shop, weaving, masonry, electric wiring and fitting, printing, photography, engraving, mechanical draughting, shoe-making, tailoring, dress-making, jewelry and various other activities connected with trades, manufactures, building, transportation, mining and so on.

The industrial arts work may be related to other subjects taught in the schools. On account of the considerable variety of subjects that can be brought under industrial arts, it easily lends itself to such co-ordination. Bonser remarks:⁶⁵ "Industrial arts is a field of rich cultural content—not the mere manipulative work of the old 'manual training'. Through this thought and appreciative content, vital relationships to other subjects become clearly apparent." In studying geography the appreciation of the industrial activities and economic

⁶⁵ F. G. Bonser, *Industrial Arts*, p. 22.

products of each country can be obtained. In history, interesting comparisons can be made as to how the people living in different times and countries obtained their food supply, clothing, shelter, utensils and other necessities of life. In elementary science, the scientific principles involved in the diverse industrial and trade operations can be analysed, and the importance of further scientific research to improve the present methods can be realized. Arithmetic deals with problems involving length, mass and time. Since industrial arts work also depends upon these fundamental measurements problems in arithmetic can be based upon industrial arts work. Thus industrial arts lends itself to being co-ordinated with various other school subjects and can be employed to motivate studies in the latter. Properly interpreted, this claim of industrial arts can as well be laid to other three divisions of practical arts, namely, agricultural arts, commercial arts and household arts; because they all represent achievements of man by the use of his hand and brain.

(3) *Commercial Arts.*

Commercial courses organized in general schools for the purpose of giving an appreciation of the methods of commerce to the pupils without expecting from them proficiency in any particular commercial occupation or job may be styled commercial arts courses. The objectives are giving fairplay to the interests of pupils in the field of commerce, enabling them to gain an insight into the many commercial methods and techniques, offering opportunities for exploration or try out as part of vocational guidance, and enhancing their general knowledge of trading conditions.

Considered from a broad standpoint, commercial arts instruction should include the bearing of telegraph and telephone, and transport by road, railways, motor bus, steamships and airships on commercial expansion of one's country and the other parts of the world. Co-ordination of other studies, especially arithmetic, geography and history, with commercial arts would heighten the value of each of these courses.

The subjects that may be taken up under commercial arts are: commercial arithmetic and accounts, commercial correspondence, typewriting, book-keeping, filing, simple banking, elementary principles of insurance, advertisement and art of salesmanship. Some of these subjects may be made into projects. For example, a small bank may be started in the school and the pupil's assistance taken to transact business. A co-operative society to buy and sell pupils' requisites may be organized, and run with their help.

The commercial courses offered in the high schools of Mysore are not vocational by any means. By devoting four periods a week for commerce instruction, no vocational competency can be claimed. These courses must be named commercial arts courses. Though the pupils may not enter commerce as life career, the instruction has a cultural value and it extends the range of pupils' knowledge and experience. In the words⁶⁰ of H. D. Kitson, "Even though one does not expect to enter business as a vocation, he will assuredly be obliged to have some business dealings, and the courses in high school will give him much enlightenment. Even to be merely a cultivated member of society one should know at least something of its largest component—business life."

(4) *Household Arts.*

Home-making is a very composite task. As civilization advances, the needs of the home, especially in cities, in furniture, utensils, lighting, decoration and cleaning and plumbing increase. The necessities of life regarding food, clothing and recreation grow in complexity. The care of children, the nursing of the sick, entertaining guests and arranging social functions require no small equipment in knowledge and skill on the part of the housewife. Making family budgets, buying groceries and selecting foodstuffs so as to secure proper nutrition

⁶⁰ H. D. Kitson, *Commercial Education in Secondary Schools*, pp. 8, 9.

are tasks which confront the home-maker daily. To achieve even moderate success in modern home-making, a certain amount of training is indispensable. In a well-organized society, this training is required of every woman. On account of the increasing part that man plays in running a modern home, he too needs this training—at any rate in some phases of it. So household arts education, where no vocational efficiency is demanded, is to be imparted in general schools as part of liberal education, in full measure to girls, and in some essentials to boys.

The scope of household arts, which is synonymous with non-vocational home economics, has been defined⁸⁷ by C. M. Winchell thus: "Non-vocational home economics has as its controlling purpose the development of intelligent insights and desirable attitudes toward personal living as involved in problems of food, clothing and home life; and the teaching of such skills as may be needed by all girls and women. It seeks also to encourage the formation of right habits in the use of food and clothing for health; to develop a basis for wise choices in relation to a satisfactory domicile whether it be a room or a larger home; and to promote desirable attitudes, habits and abilities in home-making and home-living."

The household arts being of such general importance to all people, its study is imperative in all grades of schools,—primary, middle and high schools—in Mysore. Special emphasis, however, should be laid on this subject in the girls' schools. In the boys' schools, such items of household arts may be brought in the industrial arts education as would be useful to men.

Cooley, Winchell, Spohr and Marshall say:⁸⁸ "Every girl in the schools of to-morrow will have some training

⁸⁷ C. M. Winchell, *Home Economics for Public School Administrators*, Teachers College Publication, Columbia University, 1931, p. 5.

⁸⁸ A. M. Cooley, C. M. Winchell, W. H. Spohr, J. A. Marshall, *Teaching Home Economics*, The Macmillan Co., New York, 1919, p. 58.

in home economics as a phase of her general education, whether she leaves school at the age of fourteen, eighteen or twenty-five, and without regard to her possible future vocation for self-support during the years before matrimony. This is a matter of common, general welfare, and the future of the State demands that women know how to maintain their homes in an intelligent manner, and to promote the health of the individual members of the family."

Regarding home economics education for boys, Winchell writes:⁶⁰ "...boys and men have problems of food and clothing selection which are similar to those of girls and women. The school administrator should therefore consider home economics content, whether under this name or another, as having a place in the education of boys as well as of girls in the junior high school."

Under household arts, the following subjects can be taken up:—cooking, buying and preserving food and food materials, serving food, house decoration, selecting furniture, care of children, care of household articles, selection of dress, dress-making, sewing, nursing, entertaining guests, care of garden and tending domestic animals.

⁶⁰ C. M. Winchell, *Home Economics for Public School Administrators*, p. 80.

CHAPTER VI.

Proposals for a System of Vocational Education in Mysore.

A. SOME POSTULATES.

THE basic theories underlying vocational education in general and with reference to conditions in Mysore in particular have been discussed at length in the last chapter. Only the proposals will be made here without repeating the arguments for making them. Four points are to be kept in mind in advancing any scheme of vocational education for the State, if the scheme is to be practical and to be in consonance with the general trend of events there. They are as follows :—

(1) The State is in the throes of a severe economic depression along with the rest of the world. The finances of the Government are very limited, especially at the present juncture. Consequently, an elaborate scheme cannot now be launched. The immediate attention should be, in the main, directed toward consolidating the ground already covered, augmenting the staff, accommodation and equipment in the vocational schools already established wherever there is demand for such augmentation and making such improvements in methods of instruction and administrative policy as would result in increased efficiency and bringing into being new schools which will function to satisfy immediate needs.

(2) "A programme for vocational education is efficient in proportion as all agencies having a direct interest therein are organized and utilized to make that programme effective."¹

"A programme for vocational education is efficient in proportion as it commands the respect of the general public."²

¹ J. O. Wright and C. R. Allen, *Efficiency in Vocational Education*, John Wiley and Sons, New York, 1929, p. 14, Item Q.

² *Ibid.*, Item W.

To meet these conditions of efficiency, which have been accepted by the Federal Board for Vocational Education in the United States as basic, the local authorities in Mysore, especially the District Boards, must be stimulated to establish and maintain vocational schools, particularly on the artisan level. The Government may co-operate with them by granting aid on a basis of fifty-fifty, and by offering expert advice and supervision through the officers of the State technical departments [*vide*, Chapter V, A (d), (e); and B (a)]. This policy will arouse local interest and enlist co-operation of the people.

(3) The trend that the progress of vocational education should take in the future should be visualized, and suggestions should be made to educate public opinion so as to prepare the minds of the tax-payer to shoulder the financial burden involved therein eventually.

(4) The great bulk of the people being in rural areas, a net-work of industrial schools designed specially to teach efficient methods in rural industries must be spread over the whole State. Similarly, a net-work of agricultural schools, with demonstration and service stations, should be established, with provision to teach home-economics therein for both boys and girls. To the extent that the vocational efficiency of the rural population is increased, will there be prosperity in the State.

In making proposals here, very little mention will be made of vocational education of the university level. The proposals will be confined mostly to instruction of less than college grade. It is only where the college grade instruction has direct bearing on these proposals that reference will be made to it.

B. INDUSTRIAL EDUCATION.

(a) *Artisan Type Industrial Schools.*

(1) The seven artisan type industrial schools which are under the control of the Department of Industries must be strengthened by granting more staff, equipment and accommodation, wherever the rush for admission is great.

Scholarships on a more liberal scale may be granted to children of the poor artisans living far in the interior to encourage them to take courses in these schools. The situation of the State, economic and social, makes this type of education essential, and interest in it must be stimulated if the demand for it lags.

(2) There is need for greatly increasing the number of schools of this type for promoting the vocational efficiency of the mass of artisans engaged in rural industries. The initiative for their establishment should hereafter rest with the District Boards on a grant-in-aid basis by the Government. One school for every taluk, so as to provide about 80 schools for the State, may be a very fair programme for the future.

(3) The private industrial schools may be encouraged to increase the number of seats available therein by the State offering them adequate financial help, with the understanding that they should be willing to fit their work into a general plan of vocational education for the State.

(4) *Short-unit Courses.*—The all-day classes are good as far as they go. In order to stimulate adult artisans, who are already engaged in some vocation, to enhance their vocational efficiency, short-unit courses lasting from a week to two weeks should be organized in particular subjects of immediate importance to them. For example, improved methods of welding, use of the power lathe, efficient methods of varnishing wood, mending agricultural implements, etc., may be some of the convenient and useful short-unit courses. The conditions of admission should be very flexible, and the time must be suited to the needs of the workers. They may attend a certain number of days consecutively or a certain number of hours for a few weeks until they attain fair mastery of the respective operations.

(b) *Home Industries Classes for Women.*

At present there are only eight home industries classes for women. These are in the two cities, Bangalore and Mysore. Similar institutions are required in other places too. The responsibility for establishing them should rest with the Local Bodies, the Government only aiding local effort.

Since a number of women are engaged in cottage industries, classes suitable for them may be opened in the artisan type industrial schools. The classes may be either on the part-time basis, that is, in the evenings, or on full-time basis, according to the convenience of the local women.

The industries to be selected should be those in which the women are actually engaged or for which there are prospective possibilities. The object must be to increase the efficiency of workers and to enable them to earn more than they do now.

The aims of home industries classes are different from those of home economics. The main object of home industries education is to train women, who want additional income for their families, in trades like rattan work, basket making, weaving, lace work, silk-reeling and silk-twisting, silk cocoon raising and such other home industries as are followed by women in Mysore. The women that come here may be also those whose husbands have died and who have thus lost their bread-winners. The products they turn out at home, after training, must be saleable to afford them money return.

(c) *Textile School.*

The Weaving School attached to the Government Weaving Factory at Bangalore may be converted into a Textile School to train efficient workers in the local cotton, woollen and silk factories and to produce foremen and supervisors to serve throughout the State.

Power looms and small-scale spinning machinery are gradually coming into vogue in those places where electric supply is given cheap by the Government Electric Power and Lighting Department. The proposed textile school can do immense service for the spread of these small-scale industries by training competent workers in that field. The agricultural population living in the villages who have no work for nearly four to six months in the year will find this industry a very profitable by-occupation. Already a few rural people have been carrying on work in this direction.

The possibilities of improving the spinning wheel and making it more efficient in the hands of the poor farmers may be investigated in this school. The school would be a useful institution to carry on investigations in the various branches of the textile industry, especially along those lines which would benefit the cottage textile industries.

(d) *Extension Education in Spinning and Weaving.*

The efforts that are now put forth to extend instruction in spinning and weaving to the rural population were detailed in Section E of Chapter II.

When the financial resources of the Government improve, more demonstration parties should be organized to carry instruction to the very doors of the people throughout the State.

The District Boards may be encouraged to organize such parties from their resources, and their efforts in establishing spinning and weaving centres like those at Badanval and Gundlupet may be stimulated by Government grants.

(e) *Arts and Crafts Education.*

The Chamarajendra Technical Institute at Mysore is doing admirable work in arts and crafts education. On account of the appreciation of organized school instruction in this field by the handicraftsmen, there is large accretion of strength to this Institute in recent years. The accommodation, equipment and staff have to be increased so that every able candidate seeking admission is enrolled and given the benefit of school instruction in the respective vocations.

(f) *Extension Education for Handicrafts.*

Demonstration parties for extending instruction in handicrafts among the villagers may be organized, on lines similar to those for spinning and weaving. Arts and crafts education may also be included in the programme.

Mat-weaving, leather work including shoe-making, rattan work, arts and crafts of building trades, metal work, carpentry, smithy, jewelry and a number of other cottage industries and trades are in need of improvement, in that the people engaged in them have to be taught modern improvements. This is a field rich in potentialities.

(g) *The School of Engineering, Bangalore.*

This institution is the training ground for foremen and supervisors in mechanical, electrical and civil engineering trades. A number of students who passed out of this school have also set up their own private industrial establishments.

A very useful course that may be added here is industrial engineering to train foremen and workers specifically for some of the large-scale industries already established in the State. Modern industries require educated, intelligent and skilled workers who have a fair mastery of the scientific and technical aspect of manufactures. At present, those who have to qualify themselves in industrial engineering and allied subjects have to go to institutions outside the State. If suitable instruction be imparted within the State, great impetus will have been given to local manufactures.

Though, on account of financial stringency of the Government it may not be possible to establish a new section immediately, the possibilities may be investigated in the meanwhile and suitable arrangements made, when better times do come.

As argued in Chapter V, B (b), a course for contractors in building trades and engineering works is a necessity. At present there is great inefficiency in their work. Training lasting for about six months or one year will heighten their vocational efficiency considerably.

There is need for establishing a Technological School in the State somewhat on the lines of the Victoria Jubilee Technical Institute,³ Bombay, to teach various branches

³ *Report on Public Instruction in the Bombay Presidency, 1927-28, p. 73.*

of industrial chemistry, sanitary engineering, and forest industries. A humble beginning may be made as soon as possible by adding courses in those branches which are of direct usefulness to the industries in the State. The School of Engineering will then gradually grow into a Technological Institute to train workers, foremen and supervisors in engineering, chemical and other industries.

(h) *Industrial Middle and High Schools.*

The need for the establishment of vocational middle and high schools was discussed in Chapter V, D (d). Public opinion has been fast approaching the view that there be vocational education in the secondary stage coupled with a fair amount of instruction for citizenship. About a fourth of our general middle and high schools could be very usefully converted into industrial middle and high schools where about half the time would be devoted to the practice of the trades or industry, a fourth of the time for related science, mathematics, drawing and occupational civics, and the remaining one-fourth for cultural subjects.

(i) *Methods of Instruction.*

Various methods of instruction suited to the needs of the pupil, the requirements and limitations of the locality, and the capacity and resourcefulness of the teachers may be utilized in vocational education. Only two methods, which seem to be of special importance to vocational education and which are widely adopted in the United States, will be considered here.

(1) *The Project Method.*—Snedden's definition⁴ is: "A project in vocational education is a definite unit of instruction which combines practical or manipulative achievement with a definite enhancement of power to apply related technical knowledge. Practical work alone may correspond to what is known as a 'job' in many lines of industry. A project is an 'educational' job; it has educational value, and it ought to have economical value."

⁴ D. Snedden, *Vocational Education*, pp. 561-62.

In the project, there is purposeful activity. According to Kilpatrick,⁵ the dominating purpose fixes the aim of the action, guides its process and furnishes its drive. Hence the organization of practical work into 'projects' would greatly enhance the value of instruction in vocational subjects.

Payne says:⁶ "The *project method* is unquestionably the outstanding method to use in the general industrial school. The project may be either an individual project, a group project, or a class project. The project method is the easiest way to teach the separate elements of the use of tools, materials, and processes, and also to develop in the most natural manner the relationship of these elements to the complete project.... Motivation, unification and correlation follow as a natural result, and the entire class work is made purposeful."

(2) *Co-operative Education*.—According to the method of co-operative education, the industry and the schools co-operate with each other in the training of the pupils. A class is divided into two sections. One section is sent to a plant, by special arrangement with that concern, for a week or two for working there under actual industrial conditions, while the other is receiving instruction in related and general subjects in the school. After the period is over, the section in the factory goes to the school for instruction in related and general subjects for an equal period, while the former section in school goes to the plant for practical training. Every week or two, the groups are reversed.

While the pupils are in the plant, though they are under the supervision of public schools, they are required to conform to all the rules and regulations of the factory like other employees. They receive wages for the work they do, and thus earn while they learn.

⁵ *Teachers College Record*, Columbia University, 22, 283, Sept. 1921—Definition of Terms.

⁶ A. F. Payne, *Methods of Teaching Industrial Subjects*, McGraw-Hill Book Co., New York, 1926, pp. 46-47.

The advantages of the co-operative method are : (1) The pupils are employed in the trade or industry for which they are receiving training ; (2) They come under the supervision of industrial people who know the requirements of the vocation ; (3) They have greater chances of being subsequently employed in the plant where they receive the training ; (4) The school instructors are compelled to keep up with the present-day practices and to teach subject-matter which directly functions in the industries concerned, and (5) The school can go on with the minimum amount of equipment and the pupils can receive practical training with up-to-date equipment in plants.

The Federal Board for Vocational Education remarks :⁷ "Since the passage by Congress in 1917 of the Smith-Hughes Act for the promotion of vocational education, various types of schools or courses have been developed for carrying on organized work in trade and industrial education, the co-operative part-time class being the type which has met with much favour among workers, employers, and school officials in all sections of the United States. Such courses have been established both in trade schools and in high schools."

Every effort should be made in Mysore to use these two methods in every phase of vocational education, consistent with the facilities and opportunities available there. The co-operation of industry and school is a most desirable objective for the advancement of industrial education.

(g) *Industrial Arts Education.*

The objectives of industrial arts education as a department of practical arts have been discussed in Chapter V, E. No vocational efficiency is to be aimed at in this field. The main function of industrial arts education is to afford a liberal education to the child by enabling him to appreciate the economic and social values of

⁷ Federal Board for Vocational Education, *Co-operative Part-Time Education*, 1928, Bulletin No. 180, p. 8.

present-day trade and industry and to cultivate some desirable skills, attitudes and habits.

In the primary grades where the children are of ages six to ten or eleven years, instruction in industrial arts may centre round (1) food, (2) clothing, (3) shelter and home furnishings, (4) utensils, (5) tools and machines, and (6) records or books and other publications. As Bonser says:⁸ "For each grade, there is some material from each of these fields which children can learn with profit and satisfaction, and for which their natural impulses—manipulation, investigation and the others—afford the drives." Articles for illustration can be easily obtained. A few materials and tools for experiment and manipulation are necessary and have to be provided.

In the primary grades, there is no need to make any distinction between instruction for boys and for girls. Properly interpreted, food, clothing, shelter and utensils afford adequate field for household arts instruction which is essential for both boys and girls.

In the middle grades, where the pupils are of ages ten or eleven years to fourteen or fifteen years, industrial arts must be differentiated into subjects.

Discussing the aims of industrial arts in the Junior High School in the United States, M. M. Proffitt writes:⁹ "For pupils of approximately 12 to 16 years of age chronologically, there is general agreement that good practice includes provision for developmental and exploratory experience in various human activities; that these experiences be on the interest and accomplishment levels of the pupils; that they provide for individual differences by means of enriched and differentiated curricula and methods of instruction." Metal and wood work, spinning and weaving, leather work, rattan work, blacksmithy, etc., may be for boys, and dress-making, cooking, nursing, etc., for girls. Drawing, painting, music,

⁸ F. G. Bonser, *Industrial Arts for Public School Administrators*, p. 15.

⁹ Maris M. Proffitt, *The General Shop*, United States Department of the Interior, Education Bulletin No. 30, 1929, p. 1.

interior decoration and such other fine arts may also be included in the curriculum of either.

In the high schools where pupils are of ages from fourteen or fifteen to seventeen or eighteen years of age, the above courses may be further subdivided and the pupils given a more intensive and higher kind of work, with a foundation of scientific principles underlying the diverse processes and methods. Cabinet and furniture construction, machine shop work, wood and metal turning, farm mechanics, sheet metal work, electric wiring, machine drawing, weaving, household mechanics, printing, forging, wood carving and inlaying, sculpture, forging and pattern making, may be some of the courses for boys. For girls, cooking, tailoring, designing and making dresses, decorating houses, child care and nursing may be taught.

Since the objective of industrial arts education is to provide a liberal education, girls may be taught some of the simpler items in the subjects proposed above for boys, and the boys taught some of the units meant for girls. Since purchasing household requisites in food, clothing and utensils is often done by men in Mysore, household arts is as essential to boys as to girls. Also since women go to industry and trades, mostly as helpers to men, appreciation of industry is as important to girls as to men. So, unless it be in those items which are clearly demarcated as men's or women's jobs, no hard and fast distinction must be made in industrial arts education of boys and girls. If suitable projects are organized, they may serve for pupils of both sexes.

C. AGRICULTURAL EDUCATION.

(a) *Agricultural Instruction of College Grade.*

(1) The Hebbal Agricultural School is the only agricultural institution in the State that imparts instruction of college grade, trains leaders in scientific agriculture and produces extension workers. There is a growing demand for admission to this school. Since the number of seats available is now limited, a large

number of applicants are refused admission. For the present, however, there is no need for another institution of this type, since such a school is meant for training leaders and experts in agriculture and the number of these required in a State of about six million population is comparatively small. Moreover, the founding of an efficient agricultural school is costly, and the finances of the Government at present may not permit of a second similar venture.

To meet the growing demand for agricultural education of college grade, however, the number of seats in the Hebbal school may be increased by granting more accommodation, equipment and staff.

(2) *Animal Husbandry*.—A very useful course that may be added is animal husbandry. The agricultural students are no doubt given some instruction in this subject. But, on account of the importance of the subject for improving the breed of cattle in the State [*vide* Chapter V, C (a)], specialists in this field must be trained. A wide system of extension education in cattle, sheep, pig and poultry raising is necessary, and experts in each branch have to be trained to conduct the work, especially among the rural population.

(b) *Agricultural Instruction for Farmers.*

(1) There are now three agricultural schools [*vide* Chapter III, A (b), (c), (d)] imparting instruction in the vernacular in the districts of Bangalore, Tumkur and Hassan meant for training more efficient farmers. "The Director of Agriculture reports that there is persistent demand from other districts for the establishment of such institutions and he thinks that the existing schools are fulfilling in an increasing degree the essential purpose of their existence, namely, the training of young men as practical agriculturists."¹⁰ Steps will have to be taken to establish at least one such agricultural school in each of the other districts.

¹⁰ *Report of the Mysore Agricultural Department, 1929-30, p. 3.*

In the establishment of such schools hereafter, a departure in policy of the Government may be made with a view to stimulate local authorities to take the leadership in agricultural education. The District Boards may be encouraged to start such agricultural schools and the Government may co-operate by meeting half the cost of initial equipment and maintenance. If the local bodies have the authority to administer agricultural education, the representatives of the people on these bodies would have the opportunity to adjust the instruction to suit the needs of the local farming population.

(2) *Evening Classes.*—A very useful service that the vernacular agricultural schools can do for the adult farmers is to offer short-unit courses, lasting for a few weeks each, on such subjects as irrigation, manures, raising pigs and poultry, breeding cattle, preparing soil, growing flowers, and raising particular vegetables and fruits. The methods and techniques learnt here would improve the efficiency and productivity of their vocations. The adults, being actually engaged in their vocations, would highly appreciate the value of the instruction. The instruction may be given by way of talks or conferences in the evenings either in the school or some other place convenient to the cultivators. While demonstrations of implements and specimens may be necessary, actual practical work is to be done by the farmers on their own farms, following the instruction obtained in the short courses. The instruction is mostly supplemental to their daily occupations.

Agricultural evening schools have been found to be successful in the United States. "Through much experience in the field of agricultural education, it has been demonstrated that adult farmers will attend agricultural evening schools to discuss and to find ways and means for improving their business."¹¹ Such schools are likely to find favour among the Mysore farmers also. If the evening classes to be arranged by the

¹¹ Federal Board for Vocational Education, *Agricultural Evening Schools*, Bulletin No. 89, 1930.

agricultural schools should thrive, a special staff may be appointed to organize them elsewhere.

(3) *Part-Time Agricultural Classes*.—The vernacular agricultural schools should arrange classes on a part-time basis for those persons who, having entered upon the work on the farm, may return to school and pursue short-unit courses in technical agriculture at such times as would be convenient to them. The arrangement should, in the nature of things, be very flexible. The farmers may go to school for six or eight hours a week during the slack season or may take the instruction on successive days so as to complete it in a few days. There should be no age limit.

The assumptions upon which part-time agricultural classes are based under the Smith-Hughes Act would be very helpful to elucidate objectives. "That the persons who are to take the work have quit the all-day school and are engaged in a farming occupation or agricultural pursuit which has in it a content which can be given to advantage in an organized school or class, that the work is designed to further fit persons taking it for useful employment in their present occupation or in the farming occupations in which they are preparing to engage, that a farm boy may need instruction intended to increase his general vocational intelligence, that a good farmer must be a good citizen, and that making him such is one legitimate end of the part-time work if correlated with the agricultural instruction."¹²

(4) *Agricultural Middle and High Schools*.—Agriculture being the mainstay of nearly three-fourths of the population of the State, it is very likely that middle and high schools which are designed to impart vocational competency in agriculture to the children of the farmers while simultaneously they get some instruction for liberal education purposes would be welcomed by the rural folk. As an initial measure, one middle school in each of the eight districts and one high school for the

¹² Federal Board for Vocational Education, *Agricultural Education*, Bulletin No. 13, 1930, p. 22.

whole State may be converted into this type. The actual places may be selected by sounding public opinion for ascertaining which locality would adopt the scheme enthusiastically and give it a fair trial.

(5) *Project Method*.—The object of vocational education in agriculture being the development of proficiency in farming occupations, best results are evidently obtained by carrying on practical work on the farm owned by the pupil. Any course in practical agriculture can be reduced to a number of projects, such as raising a crop of rice, ragi, potato, groundnut or jola. In animal husbandry, projects might be successful raising of poultry, cows, buffaloes, etc. Wherever any pupil has opportunities for conducting one or more of these projects on his own farm under the supervision of the school staff, he must be encouraged to do so. There must, however, be a close correlation between the pupils' practice on his farm and the class-room instruction.

The Federal Board for Vocational Education in the United States has the following to say¹³ about supervised practical work: "The home project is an enterprise undertaken by the boy with full responsibility on his part for both the financing of the project and the doing of the work, although he may not necessarily do all the work himself. This should be a business enterprise involving the keeping of books, the taking of inventories, and the making of final statements.

In addition to the project, certain additional farm jobs may be carried on, like the testing of milk from a certain number of cows, the treatment of seed potatoes for scab, the testing of the germinating powers of seed corn, or the grafting of fruit trees."

It is only when the pupil has no opportunity to work on his own farm that the school farm may be used.

The project method may be used in any of the types of agricultural schools or classes. Since the pupil does

¹³ *Agricultural Education*, "Organization and Administration," 1930, Bulletin No. 18, p. 22.

the work on his own farm, the improved methods that he may adopt would afford hints to his parents to improve their techniques. The neighbours, too, would be stimulated to improve their vocational efficiency.

The advantages of the home project method of training are well set forth in the following paragraph of the Eightieth Report of the Massachusetts Board of Education published in 1917 :

"Under the home project plan of training, a boy at the end of his course not only has had four years of thorough training, but he may have accomplished four years of farm development and may have very tangible results to show for his effort. The boy who starts a nursery of one hundred trees and transplants it into an orchard has the trees themselves to show for his training.... On the completion of his course in training, such a boy finds his hands full of well-considered farm enterprises undertaken for his father and for the family benefit, or with the good-will of his father and for his personal benefit."¹⁴

(6) *Agricultural Extension Work*.—The agricultural extension work in Mysore has been fairly well devised and is ably directed. The staff is not, however, commensurate with the magnitude of the task. When the financial conditions improve, the number of extension agents, called agricultural inspectors in Mysore, may be increased so as to have one for every taluk in the State; that is, to the 27 agents now available, about 53 will have to be added. The increase can take place only gradually.

The extension agents should organize clubs in villages like the 4-H Clubs in the United States. The objectives claimed for these clubs are :

- To improve farm and home practices ;
- To teach pride in occupation ;
- To give training in agriculture and home economics ;
- To develop appreciation of nature ;

¹⁴ B. A. Lee, *Objectives and Problems of Vocational Education*, 1928, p. 77.

To teach co-operation ;
 To develop rural leadership ;
 To give vision ;
 To develop men and women.¹⁵

In agricultural extension work and in the evening schools, the conference method is highly fruitful. The method has been defined thus:¹⁶ "The conference is an educational procedure consisting of informal but systematic group discussion carried on by experienced persons under the direction of a leader."

The leader may be an extension agent whenever he is available or may be some other agricultural expert.

The chief aims are constructive thinking about agricultural and allied occupations, pooling and exchanging experience of group members, and thus getting sufficient facts for improving vocational efficiency.

Demonstration on the farms of the cultivators has been found to be a valuable method in extension work in Mysore. Its use must be extended widely.

(c) *Agricultural Arts Education.*

Agricultural arts are taught in twelve middle schools for six out of thirty-three periods a week in the second, third and fourth year classes. As explained in Chapter V, E, the objective to be gained cannot be regarded as more than the enrichment of liberal education of rural children. As such, this instruction may be extended to other middle schools, especially to those situated in rural parts. The rural boys will greatly appreciate the importance of the staple industry on which lies the life career of most of them.

On the arts standard, agricultural instruction must be introduced in the high schools, too. The future

¹⁵ C. B. Smith and M. C. Wilson, *The Agricultural Extension System of the United States*, John Wiley and Sons, New York, 1930, p. 71.

¹⁶ Federal Board for Vocational Education, *The Conference Procedure in Teaching Vocational Agriculture*, 1930, Bulletin No. 147, p. 1.

citizen must have a good appreciation of the agricultural and allied occupations. .

(d) *Sericultural Education.*

The Government of Mysore has made admirable efforts to educate people in the various phases of sericulture industry (Chapter III, D).

Improving and extending the instruction given on the sericulture farms, enlarging the scope of training at the Government Silk Filature at Mysore, opening more silk-twisting and silk-reeling classes for women, opening sericulture classes on the arts level in more middle schools of silk-producing tracts, introducing sericultural arts instruction in high schools, and increasing the number of sericulture inspectors to do more extension work are the lines along which sericultural education can be advanced.

D. COMMERCIAL EDUCATION.

(a) *Commercial Schools.*

There are now four recognized commercial schools in the State, one under Government management, and three under private control, two of the latter receiving grant from the State. Efforts need to be hereafter directed toward strengthening these institutions. Courses in advertising, secretarial work, retail selling, salesmanship and insurance should be organized.

(b) *Commercial Middle and High Schools.*

Just like the proposed industrial and agricultural middle and high schools, commercial middle and high schools may be established with a view to train youths of middle and high school ages for business. The courses should be such as would find favour with the large number of small traders and shop-keepers as well as with the larger commercial and industrial enterprises.

In the middle schools, instruction is imparted in the vernacular. Most of the pupils that leave school at the end of the middle school go into business of some kind or other, which is often of small-scale type where accounts are maintained and correspondence carried

on in the vernacular. Commerical middle schools could give a great impetus to modernizing commercial and business methods of the small trader.

(c) *Commercial Arts Education.*

The four periods per week of commercial education imparted in the high schools is really on the arts level. This must be continued with the well-understood objective of giving the pupils an appreciation of business methods in the modern commercial world.

Commercial subjects must be taught hereafter in the middle schools also on the arts level [Chapter V, C (c)]. At present no provision exists for this.

(d) *Vernacular Commercial Classes for Adults.*

In Chapter V, C (c), the need for re-establishing vernacular commercial classes for adults was discussed. The local bodies, who are more in touch with the needs and requirements of the respective localities, may be stimulated by generous grants from the State funds to organize such classes in places where there is a fair chance of their becoming popular. When the demand for them ceases, the classes will close.

E. HOME ECONOMICS EDUCATION.

(a) *Need for Home Economics Education in Mysore.*

No subject of general or vocational education is more important to Mysore than home-economics, but no subject has been less organized in her school system. Under the name of domestic economy, a little knitting and sewing is done and a few principles of hygiene taught in the middle and high schools for girls. But no practical work of any kind is done in such important subjects as child care, cooking, kitchen organization, structural necessities of the home, interior decoration, selection and care of household furniture and equipment, family budgets, maintenance of garden, selection of foods, nutrition and recreation.

Practically every person in Mysore, with but very few exceptions, marries and sets up a home. Almost

every girl looks forward to a happy home of her own and expects to have children worthy of her family and the community in which she lives. Nothing is more delightful to an Indian housewife than to extend the hospitality of her home to her relatives and friends of her family. In the more cultured communities, fine arts like singing and playing on musical instruments are regarded as desirable accomplishments for girls. All these traditional usages, customs and manners of the household are now taught to girls by mother-daughter apprenticeship at home. Since there are many aspects of home-economics which have developed in recent times through progress made in applied science and which a mother can hardly know unless she undergoes an organized training in them, the teaching of home-economics on a highly extended and improved scale in schools and colleges is an imperative necessity in Mysore.

The foundations of home-economics education can only be laid gradually. The aims and purposes of teaching the subject with special reference to conditions in Mysore have to be evolved, and the public must be educated and made familiar with them. The needs of the various economic levels of society have to be surveyed and curricula suitable to their requirements have to be developed. Particular social usages and religious susceptibilities have to be allowed for. Equipment needed for the different types of schools has to be determined, in relation to the needs of the local community. Research and investigations in subjects like nutrition, sanitary methods and fittings, modes of constructing homes and of equipping them on modern lines for the diverse economic strata of society, and the making of family budgets have to be carried on. Research carried on in other countries is not directly applicable here because of different climatic conditions, different natural products, etc. Therefore new research is imperative. Not the least of all, suitable teachers competent to teach the subject have to be trained. In the meanwhile, beginnings of instruction should be made with the data now available to the extent that the present resources permit. For some time to come, most of the teaching

of home-economics will have to be more on the household arts level [*vide* Chapter V, E (b), (4)] than on a strictly vocational basis.

In this connection, it would be instructive to know how the household arts education has developed in the United States. Florence E. Winchell writes:¹⁷ "Since the introduction of Household Arts into American schools thirty-five or forty years ago, the attention of most of those concerned with the work has of necessity been directed to the immediate needs of their own situations. Very few individuals have had the opportunity to deliberately consider the problems of the whole field, studying the needs in detail and in perspective. Notwithstanding the rapid growth of the work and many forms of pioneer work required by the widely differing situations, the teaching has improved. This improvement in the teaching of Household Arts has been largely due to the personal contacts among teachers, established at Household Arts conferences and through travelling supervisors. The successes of one school have inspired teachers of other sections, original schemes and devices have been made more generally useful and disagreements in educational philosophy have stimulated careful thought concerning the subject."

(b) *Household Arts in General Schools.*

(1) *Primary Schools.*—As explained in section B of this Chapter, home-economics of non-vocational type, which is designated household arts, is to be taught in the primary schools as part of the industrial arts programme since the simple projects and problems of food, clothing, shelter and utensils are common to both these branches of practical arts. As far as possible, study of industrial and household arts problems must be co-ordinated and articulated with the study of other subjects, so that these little children may get an integrated educational effect. To the extent the children are

¹⁷ Florence E. Winchell, *How can Household Arts Teaching be Made More Effective?* 1923, Lincoln School Publication No. 14.

enabled to correlate information and manipulation in the diverse subjects of the primary grades will there be effectiveness in instruction. At this stage, there need be no differentiation in the curricula for boys and girls, for the needs of both are the same.

Four to six periods a week devoted to industrial and household arts would well repay effort in the primary classes.

(2) *Middle and High Schools.*—In Mysore there are separate schools for boys and for girls at the middle and high school levels, and very few girls attend boys' schools. The feeling among the generality of parents is that there should be differentiation of curricula to suit the needs of boys and of girls.

Home-economics, under the name of domestic science, finds a place in the curricula of girls' middle and high schools. Four to six periods a week are allotted to the subject. Knitting, sewing and home hygiene are taught.

Time has come when the various courses listed on page 125 should be introduced. Related science and mathematics must also be taught. As the girls proceed to higher grades, practical work must become more differentiated and should centre round well-defined projects. "If projects are selected because of a real interest in the subject, their success is assured."¹⁸

".... every pupil should be encouraged to assume the responsibility for some task which requires management and judgment beside the actual doing. The task should be something which the pupil herself desires to do, something which will meet her own needs, and for this reason it will likely be an activity which she is normally expected to perform. Such activities are called *home projects*."¹⁹

These courses in home-economics of four periods a week are to be understood as functioning for appreciation

¹⁸ C. M. Brown and A. H. Haley, *The Teaching of Home-Economics*, Houghton Mifflin Co., New York, 1928, p. 226.

¹⁹ *Ibid.*, pp. 232, 233.

and liberal education purposes and not to secure vocational efficiency in the strict sense of the term.

(c) *Home-Economics for Vocational Efficiency.*

Under the conditions obtaining in Mysore just at present, it is doubtful if vocational middle and high schools for home-economics would become popular. After the advantages of household arts education have been appreciated by the public and when women's education advances adequately so that educated women wish to secure home-economics education for vocational purposes, either for service in their own homes or for earning a livelihood by service in other places such as hotels and restaurants, all-day home-economics schools may be established.

(1) *Evening Classes.*—For the benefit of adult women who are already home-makers, and other women who are paid household assistants in others' homes, evening classes may be set up for imparting instruction in home-economics which would be supplementary to their home-duties. For example, in a project on cooking, no practical work need be attempted in the evening class. But discussion will centre round nutritive values of food-stuffs used, more economical ways of cooking and mixing ingredients, methods of preserving cooked foods, improvements that can be effected in cooking appliances, and cooking for large numbers as in hotels or for parties. The aim is to enhance the vocational efficiency of actual or potential home-makers, by offering them an intelligent and scientifically tested interpretation of the manipulatory and other activities in which they are engaged at other times.

(2) *Extension Education.*—Extension agents in home-economics may be appointed to carry instruction to the very homes of the people. Especially is this kind of work needed in villages. Rural population requires instruction and information on all items of home-making even more than the urban people. Conferences with villagers on subjects like food selection, nutrition, house planning and furnishing, home management, home

nursing, hygiene of clothing, child care and training, and social recreation and community relations would be of immense use in enriching rural life.

The way in which extension work is carried on in the United States may be seen from the following account given by Smith and Wilson :²⁰

"In developing the year's extension programme the home demonstration agent assembles a group of farm women in a community to discuss the need and to determine their choice of a certain number of demonstration meetings in various phases of nutrition, clothing, or home management or home furnishings, textiles and fabrics, etc. There may be a demonstration meeting per month extending through a period of one, two, or three years. The farm women choose such subjects as they most desire instruction in. Each local group of farm women is asked to select one, or preferably two, of its members to meet with the home demonstration agent or State extension specialist or both, at the county seat or some other convenient place in the county for a day or two to get the instruction. The delegates from the community thus sent to take the instruction from the home demonstration agent and extension specialist from the college are called local leaders. The local leaders are given the special instruction with the understanding that they will carry back to the local group that sent them the information thus received, put the information received into practice in their own home themselves, and show the farm women of the group just how to do the work."

(3) *Classes for Hotel Managers and Hotel Employees.*—As explained in Chapter V, C (d), classes should be organized for hotel managers and hotel employees like cooks, servers and cleaners, with a view to increase their efficiency and make the hotels more hygienic and comfortable. Within the last two decades, hotels have multiplied enormously. Women have been gradually

²⁰ C. B. Smith and M. C. Wilson, *The Agricultural Extension System of the United States*, pp. 64, 65.

opening hotels independently, whereas formerly the field was held almost entirely by men. Women helpers are now coming into hotels where managers and cooks are men. The vocation will draw more people hereafter, as trade, commerce, industry and transportation thrive. There is a great future for this kind of vocational instruction.

CHAPTER VII.

Problems of Training Teachers of Vocational Education in Mysore.

(a) *Present Practice of Selecting Teachers of Vocational Subjects.*

THE present practice of selecting teachers of vocational education in Mysore consists in determining which persons have the requisite knowledge in the respective vocations which they have to teach in the school concerned. A carpentry instructor must have a good knowledge of carpentry, often determined by a certificate showing successful completion of a course in carpentry offered by a recognized technical or industrial school. An agricultural instructor is generally to have a diploma from the agricultural school at Hebbal or from any other Indian agricultural school or college of the same standard. A commerce teacher must be a Bachelor of Commerce of an Indian university or must be the holder of a certificate of equal merit. A good knowledge of the content of the vocation is regarded as the most requisite qualification. In the case of instructors of agriculture and commerce, by the very qualifications required for admission to the agricultural and commercial schools, they must have passed at least a high school public examination or its equivalent. But in the case of instructors of subjects like carpentry, blacksmithy, weaving and metal work which are on the artisan level, an instructor who is capable in his trade may or may not have gone beyond the primary school. Whenever persons, capable in the trade and also possessing as high a general education as possible, are available, they are given preference in selection. When such men are not available, a capable artisan is appointed, though his general educational qualification may be low.

Instructors of vocational subjects, who have a fair amount of liberal education, of say high school level or more, are expected to impart instruction in related science and mathematics, and related sociology and economics

as far as their training and attainments permit. They are instructors of agriculture, of commerce, and of civil, mechanical and electrical engineering. As for instructors in other subjects, the general educational qualifications are of varied standards, anywhere from no schooling whatever up to high school graduation or a year or two of college.

As for training to teach the particular vocational subject, there is hardly any organized or systematized practice in the State. That question, namely, of training teachers of vocational education competently to teach the particular subject which they are expected to teach, has until now not been considered. Each teacher adopts the methods he thinks most suitable.

Another point that should be taken into consideration with regard to the qualifications of teachers of vocational subjects is their actual experience in the trade or industry or occupation. Very often the agricultural, commercial and engineering teachers have little actual vocational experience. A graduate of an agricultural school is appointed as an agricultural teacher without any consideration of whether or not he has successfully conducted agriculture as a vocation on his own or some other person's farm. A commerce teacher may not have worked in any commercial or business concern. A teacher of any branch of engineering may not have been employed in any engineering or allied firm or plant. This want of actual experience in trade or industry or occupation detracts considerably from the effectiveness in teaching with regard to trade conditions. Snedden says:¹ "It is to be assumed that no one can be a successful teacher of trade technology who has not had substantial experience, although not necessarily the amount required of a journeyman, in the practice of the trade itself." The Board of Industrial Education in the City of Milwaukee, Wisconsin, requires for a permanent vocational teacher's license to teach trade classes five years of approved

¹ D. Snedden, *Vocational Education*, p. 363.

journeyman trade experience in the field to be taught or in approved related fields.²

(b) *Qualifications of Teachers of Vocational Education.*

Qualifications required of teachers of vocational education depend upon (1) the type of school, (2) the subjects they have to teach, (3) the vocational proficiency pupils must attain, and (4) the educational qualifications that the enrolled pupils possess.

In an artisan-type industrial school, the teacher of carpentry or weaving should be very efficient in the trade, but his general educational equipment need not necessarily be high. The artisan boys themselves are not of high educational attainments. They, however, do expect the teacher to demonstrate the methods and techniques of the trade most efficiently. Since their family occupations are often the very trades for which they come to the industrial school to receive training, they constantly compare their traditional methods with school methods. Unless the school training is of a really better type than that which they can obtain by father-son apprenticeship, they may feel dissatisfied with the school. The parents, too, are highly critical of the instruction imparted in the school, and they expect far more efficient training in the school than they can impart at home.

In a vocational high school, the teacher of carpentry should not only be competent in his trade but should also have a fairly high general education, say of the high school standard. The pupils in the high schools have very little respect for a trade teacher who has little liberal education. Moreover, vocational teachers in high schools should be able to impart knowledge of related science, mathematics, and sociology, and of trade conditions. The standard is far higher than that expected in the artisan type school.

As a general rule, all teachers of vocational subjects should be able to impart instruction in (1) the practice

² E. A. Lee, *Objectives and Problems of Vocational Education*, p. 241.

of the trade, (2) related science and mathematics, and (3) related sociology and economics. Therefore "the training institution itself would necessarily have to contain a few specialists in trade technology, trade sociology, and methods of teaching."³ By trade practice is meant "all that training based on practice in productive work, such training to involve rigid tests of capacity to produce quantity of output as well as quality of output, as a final condition of approval."⁴

Under related science and mathematics come those items of science and mathematics which go to elucidate the technological principles involved in the trade and to enhance the understanding and technical proficiency of the pupil.

Under trade sociology and economics come "the history of the occupation, its economic and social significance in the world at the present time, the legal rights and obligations of its workers, principles of sanitation and hygiene as applied in the industry,"⁵ problems of demand and supply of the workers in the trade and labour problems affecting the trade in the locality and in the State.

The standard of instruction that the teacher has to impart depends upon the trade and the requirements of the pupils. To do his work efficiently, his qualifications are to be fairly high at each level.

The qualifications that a teacher of vocational subjects should have can be divided into five categories according to a plan of the Board of Industrial Education in the City of Milwaukee.⁶

- (1) Training in the content or subject-matter of the vocation,
- (2) Experience in the vocation after training,
- (3) Training for teaching the vocational subject,

³ D. Snedden, *Vocational Education*, p. 366.

⁴ *Ibid.*, p. 362.

⁵ *Ibid.*

⁶ E. A. Lee, *Objectives and Problems of Vocational Education*, p. 241.

- (4) General education, and
- (5) Personal qualifications.

(c) *Training of Teachers of Trade and Industry.*

(1) *Teachers in Artisan Type Industrial Schools.*—

The practice in the trade of teachers in artisan-type schools should be very detailed and efficient. There are industrial schools in the State which can give this practice to them. After school training, they need to have about three years experience in following the trade efficiently. This experience is expected to yield to them an insight into the actual conditions of the trade and its related sociology and economics.

The general educational qualification may be the completion of the middle school.

Training for teaching the subject will have to be arranged after they get three years' actual experience in the trade. A course in methods of teaching trade and industrial subjects and of imparting related science and mathematics and trade sociology and economics suited to artisan children will have to be organized in one of the larger industrial schools in the State.

"Training in trade technology and trade sociology, as well as in methods of teaching and other related pedagogical subjects, manifestly cannot be given in the industry itself. These subjects should be provided for by the training institution, in every case under the guidance of specialists in the trade itself. In the last stages of the training of the prospective teacher, some facilities for practice teaching, perhaps in the capacity of an assistant in existing vocational schools, should be made available."⁷

The teachers in artisan-type industrial schools may be drafted generally from the artisan class. Having lived in that community, they know the requirements, habits and aspirations of artisan children better than others. They may be expected to have a clearer idea of sociological and economic conditions of the artisan class than people of other groups.

⁷ D. Snedden. *Vocational Education*, pp. 365-66.

(2) *Teachers in Industrial Schools of Standard Higher than the Artisan Type.*—Qualification regarding industrial training for teachers of these schools should be completion of a course in their respective subjects given to advanced students in the Chamarajendra Technical Institute at Mysore or the School of Engineering at Bangalore or the Victoria Jubilee Technical Institute at Bombay.

They should have about five years' experience in following the trade as journeymen. Industrial practice participation is of utmost importance to teachers of industrial subjects in the higher industrial schools. The Federal Board for Vocational Education says:⁸ "Experience all over the United States during the past 12 years has amply demonstrated the fact that one cannot expect to have a successful day trade course if it is taught by other than a practical mechanic."

Completion of a high school course would be the minimum requirement as to general education.

Training in teaching-methods, in related subjects and in industrial sociology and economics as well as in observation and practice teaching, should be arranged in the respective industrial and engineering schools under the supervision of specialists in each branch. The prospective teachers should have fundamental courses in general education and a course in principles of vocational education.⁹

(3) *Teachers for Extension Work in Trade and Industry.*—In addition to the qualifications mentioned in (2) above, teachers for extension work should be well versed in the problems and objectives of extension work and in the methods of achieving the purposes by suitable means. They must be good "mixers," and should have affable temperament to win the confidence of the artisan class. They should be well trained in putting into practice the

⁸ Federal Board for Vocational Education, *The Training of Teachers for Trade and Industrial Education*, 1930, Bulletin 150, p. 48.

⁹ A. F. Payne, *Administration of Vocational Education*, p. 116.

project method and the conference method, since these two would be very appropriate in extension work.

(4) *Teachers of Industrial Arts*.—The object of instruction in industrial arts in schools is to enable the children to appreciate the sociological and economic bearings of trade and industry on life and to afford them a certain amount of skill with tools and in processes used in industry as part of a liberal education.

A teacher of industrial arts in primary schools must, therefore, have an all-round knowledge of the six fields comprising industrial arts education, namely, food, clothing, shelter, utensils, tools and machines and records. He is not an expert in any particular trade or industry; but he must have practice in the use of simple tools which can be used by children of ages six to ten years. He must have a wide appreciation of the needs of the community in the six fields. He must have clear conceptions of the purpose of industrial arts teaching. The training for teachers of industrial arts in primary grades may be arranged in the State normal schools as part of the teacher training programme for general education.

In the middle and high schools, differentiated curricula operate, and courses become more and more specialized as the pupils advance from grade to grade. Industrial arts teachers for these schools should have a working knowledge of two or three trades which are allied to one another and should possess a fair acquaintance with two or three other trades. They should understand the philosophy underlying the teaching of industrial arts in general schools. They must have good training in the subject-matter of the courses they have to teach. After studying the training and experience of 480 industrial arts teachers in the United States, Fred Strickler has come to the conclusion:¹⁰ "On the whole teachers want more training

¹⁰ Fred Strickler, *The Training and Experience of 480 Industrial Arts Teachers*, Bureau of Publications, Teachers College, Columbia University, 1927, p. 50.

in the subject-matter which bears a close relationship to the problems of every-day teaching." How much more training the teachers of industrial arts in Mysore schools should have !

There are many teachers of industrial arts already in service in Mysore. Their training is important and may be styled 'teacher training in service'. It can be effected by holding summer classes and arranging extension courses at any time. Friese writes :¹¹ " Specifically, teacher-training in service may be the vehicle for establishing aims, selecting subject-matter, making analysis, studying methods, giving interest and purpose to the work, etc. The work is better through bettering the teacher. No supervisor or director is worthy of that title who does not see where the work (teaching) may be bettered, and provide a means for its accomplishment."

The Training College for Teachers at Mysore can organize courses for the training of teachers in service.

(d) *Training of Teachers of Agriculture.*

The minimum practical training for teaching agriculture in a vocational agricultural school and for teaching agricultural arts in middle and high schools should be graduation from the Hebbal Agricultural School. This will provide the teacher technical and scientific knowledge of agriculture.

After graduation, he should have followed the vocation of farming in the particular branch or branches he has to teach for three to five years. This farming experience is of great importance for successful teaching of vocational agriculture.

Then he should undergo training in the teaching of agriculture and in the philosophy of instruction in the particular type of school or class or subjects, namely, all-day school, part-time school, evening school, extension work or agricultural arts.

¹¹ John J. Friese, *Exploring the Manual Arts*, The Century Co., New York, 1926, p. 369.

The agricultural experts in the school at Hebbal should organize courses in the teaching of agriculture with the assistance of experts in general education and in teacher-training. Courses should also be organized for training teachers already in service, to bring to their attention newer and better ways of teaching and for imparting to them knowledge of recent developments in agricultural practice. Training of teachers in service may be also effected by supervisors of agricultural education as itinerant teacher-trainers, through extension courses and summer classes and through professional books and other literature.¹²

(e) *Training Teachers of Commerce.*

For teaching commercial subjects in a commercial vocational school, a Bachelor of Commerce degree of an Indian university or equivalent, with special training in the branch or branches the teacher has to teach is the bare requisite. After graduation, the person should be employed in a commercial concern for three to five years for obtaining experience in the vocation.

A person qualified as above, should undergo a course in the teaching of commercial subjects in the particular type of school he has to serve. Special courses in the teaching of commercial subjects may be arranged in the Government Commercial School at Bangalore with the aid of experts in commercial subjects and general education.

For teaching commercial arts, graduation from the Government Commercial School at Bangalore would be adequate. The prospective teacher of this subject should be employed for at least three years in a commercial concern where he can utilize his knowledge in commercial pursuits. After obtaining trade experience, he should undergo training for teaching commercial arts.

(f) *Training Teachers of Home-Economics.*

There are no facilities in Mysore for training teachers of home-economics. A little training in sewing and knitting and instruction in hygiene and sanitation of the

¹² Federal Board for Vocational Education, *Training Teachers of Vocational Agriculture in Service*, 1929, Bulletin No. 135.

home is imparted to women under training for teaching. But the various other items of home-economics receive no attention.

The immediate task lies in organizing household arts instruction on an extended scale for women teachers in service in the Women's Training College at Mysore City. The course may be given as an extension education course for teachers in the city during two or three evenings in the week for a year, and as a summer course for teachers outside. The teachers thus trained can teach household arts in the general schools. This course can also be made a part of the teacher-training programme for future teachers.

When financial conditions improve, a vocational home-economics teacher-training class for teaching home-economics as a vocational-efficiency course will have to be instituted. This may be done in the Women's Training College. The experience gained in teaching household arts would be very helpful in this field. Teachers for extension work, evening classes, part-time classes and all-day schools may all be trained here as the organization progresses.

CHAPTER VIII.

Problems of Vocational Guidance in Mysore.

(a) *Need for Vocational Guidance.*

The National Vocational Guidance Association of America formulated and adopted in 1924 the following definition of vocational guidance¹:—

“Vocational guidance is the giving of information, experience and advice in regard to choosing an occupation, preparing for it, entering it and progressing in it.”

The term “vocational” as used here comprises all gainful occupations, as listed in the United States census of occupations and home-making.

Snedden defines² it thus: “Vocational guidance includes all systematic efforts, under private or public control, and excluding the traditional activities of the home, the conscious and chief purpose of which is to secure the most economical and effective adjustment of young people to the economic employments which they can most advantageously follow.”

In the United States, the number of occupations has become enormous within the last half century on account of progress in agriculture, trade and industry. The occupations have also increased in techniques and complexity. They have become more specialized. This is due to the application of science to the requirements of life and a desire in the people to enrich life and to increase its comforts. Simultaneously with this advancement, the urbanization of population has progressed considerably.

¹ F. J. Allen, *Principles and Problems in Vocational Guidance*, McGraw-Hill Book Co., New York, 1927, p. 14.

² D. Snedden, *Vocational Education*, The Macmillan Co., New York, 1920, p. 580.

The American family, at any rate in the cities, is not in a position to afford adequate guidance to the children to select any particular occupation as was done when life was comparatively simple and when the home exerted considerable influence in the vocational training of the youths. "Gradually at first, more rapidly in recent years, the home has changed and it no longer occupies the position in training that it once did. The pushing back of the frontier, the development of trade and commerce, the specialization of industry, all have been accompanied by the giving up on the part of the home, of nearly all its early industrial training. In fact, in many of our homes there is practically nothing left for the boy to do."³

In Mysore, the agriculturists, artisans and traders generally guide their children to follow their own occupations, although in recent years a few people do send their boys for higher education to enter the professions. The home is the training ground for occupations among them. There are, however, many people who depend for their vocations on higher education, which they pursue with a view principally to enter Government service and to take to the professions. The Government services are overcrowded. More people now go to higher education with the intent of finding places in Government offices than can be absorbed therein. The profession of law is overcrowded. Engineering college graduates do not find it easy to obtain positions either in the Government departments or in private concerns; and unless trade and industry thrive there is little prospect before most of these graduates. Medical graduates have good chance of doing service in rural areas where medical aid is most necessary now; but there is great reluctance on their part to settle down there. If there is sympathetic guidance, they can be persuaded to do so. Pupils of high schools and colleges, and of engineering, industrial, commercial and agricultural schools require vocational guidance to choose, to prepare for, to enter and to progress in occupations

³ A. J. Jones, *Principles of Guidance*, McGraw-Hill Book Co., New York, 1930, p. 6.

suitcd to their capacities and interests. The educated parents, no doubt, offer some guidance to the boys in this regard ; but that is very desultory, haphazard and not based on investigated data regarding demand and supply. The uneducated and ill-educated parents, of course, do little to help the child ; nor can they be expected to do anything except to ask the boy to interview heads of offices and firms. The result is not helpful to the economic progress of the country. The fact is that it is not an easy process to select occupations for the educated youth. Still more difficult it is to secure a job in the selected vocation for which he has been trained at enormous cost.

The high schools and colleges in Mysore have been the training grounds for Government offices. The Indian Industrial Commission remarks :⁴ " The system of education introduced by Government was, at the outset, mainly intended to provide for the administrative needs of the country and encouraged literary and philosophic studies to the neglect of those of a more practical character. In the result it created a disproportionate number of persons possessing a purely literary education, at a time when there was hardly any form of practical education in existence." So long as only a few took advantage of the academic courses, all those who graduated from these institutions could get Government jobs. Now more people go to academic courses than the Government can find posts for. So the emphasis on academic courses must be reduced.

Pupils, especially of secondary schools, have to be diverted to other channels, namely, trade, industry and agriculture. They must be given that education which will fit them for some vocations for which there is demand. Mere starting of vocational schools will not do. Guidance to pupils is needed at every step—guidance, educational and vocational.

⁴ *Report of the Indian Industrial Commission, 1916-18,* p. 92.

In this connection, it is instructive to compare what has been taking place in a similar manner in the Philippines. In a Report of the Survey of the Educational System of those islands conducted by Dr. Paul Monroe and others, the following statement⁵ occurs: "Although thirty-one of the eighty-five secondary schools are vocational schools of one type or another, and although seven of the eight curricula offered in these schools are vocational curricula, more than 70 per cent of the pupils registered are enrolled in the academic course. The great majority of all these boys and girls come from the farm and rural areas; yet comparatively few ever return to the occupations of their parents and to their home communities. Even though they leave the school before graduation, they seek employment in Government office, commercial enterprise or professional service. Also few of those who pursue the vocational curricula engage after graduation in the occupations for which they are trained. They too seek entrance into the non-manual vocations. Thus, as administered, almost the entire secondary school system makes boys and girls unwilling to engage in the occupations of their fathers and mothers and weans them away from the soil."

Though the pupils trained in the vocational schools in Mysore have not shown any marked tendency to seek entrance into non-manual vocations, there is a strong urge in secondary school scholars to aspire to employment in Government offices. If there is an adequate system of vocational guidance, much of their energy can be diverted into other channels where there may be enough scope for the pupils to earn a decent livelihood. Also, as recommended in the Report on the Philippine Educational Survey, there is need for more diversified courses in secondary education and better facilities for the high school pupils coming from the rural areas. "Secondary education should be administered through a rural high school, a normal school, an academic high school, and

⁵ *A Survey of the Educational System of the Philippine Islands*, Manila Bureau of Printing, 1925, pp. 52, 53.

several schools to represent the industrial, commercial, and other interests of the Islands."⁶ "These secondary schools should articulate closely with the intermediate school. A very important function of the latter is that of vocational guidance. Its curricula and procedures should be so organized as to explore and discover the aptitudes, abilities and interests of its pupils."⁷ A diversified secondary education with sound organization of exploratory or try-out courses would greatly aid the vocational guidance of youths.

If there is to be no waste of effort and money, there must be a great amount of educational and economic planning. In dealing with secondary education in the United States, H. F. Clark says:⁸ "If obtaining a secondary school education means a preparation for a certain limited group of occupations, secondary education for all is bound to be disastrous. On the other hand, if society is willing to plan the number of people needed in each occupation, and then to set up adequate training facilities, there are probably no reasons to think that something equivalent in cultural opportunity to secondary education cannot be provided for practically every one." Though Mysore has not reached the stage of secondary education for all, there has been marked increase in enrolment in recent years. So, diversified secondary education leading to various occupations would greatly facilitate vocational guidance. Occupational surveys must be made from time to time to determine the kinds of occupations and the number of people at each level of education needed for each of them, and the youths must be guided to take up such occupations according to their interests, capacity, and academic and vocational training. Vocational guidance organization must assist in the choice of and preparation for these

⁶ *A Survey of the Educational System of the Philippine Islands*, Manila Bureau of Printing, 1925.

⁷ *Ibid.*, p. 347.

⁸ *Educational Year Book of the International Institute of Teachers College*, Columbia University, 1930, p. 524.

occupations. To illustrate the waste now going on in the United States on account of want of occupational planning for secondary school graduates, H. F. Clark cites⁹ the results of a survey: "In a study made by Odell in Illinois, involving 7,000 high school seniors, it was found that well over fifty per cent of the students were planning to go into four professions. Less than two and one-half per cent of all gainfully employed people are in these professions. If every one goes to secondary school, half of them cannot go into four professions which at present employ less than two and one-half per cent of the working population." Studies like this have not been made in Mysore. Perhaps, similar disproportions might be disclosed if studies are made. There is no doubt, however, that too much leaning towards Government offices is having disastrous effects on social economy. Properly devised vocational guidance and vocational education should be able to ease the situation.

The question of vocational guidance for rural children is in some ways difficult and in other ways easy. There is no significant migration of population from the rural to urban areas (*vide* Chapter I, B). Some rich families may send their children to higher education; but as compared to the vast mass of rural population, the former are relatively few. Most of the rural pupils stay in rural areas, and more often they follow their family occupations. Vocational training suited to their traditions and calculated to enhance their efficiency is what is wanted. Vocational guidance for the brilliant rural children consists in seeing that they continue their general education to as high a level as they possibly can, and then turn their attention to such vocational training as would enable them to assume leadership in rural vocations, such as agriculture, horticulture, sericulture, animal husbandry, forest industries, etc. Of course, there is always the possibility that some of the gifted children, on their gaining higher education, may go on with urban vocations.

⁹ *Educational Year Book of the International Institute of Teachers College*, Columbia University, 1930, p. 519.

In such instances, each case has to be dealt with on its individual merits. The fundamental point to be understood is that rural children require as much guidance as city children. Those rural children who could follow their family vocations have to be guided to prepare for them and then to progress in them. Those who have no such vocations to fall back upon must be enabled to choose vocations appropriate to their ability and the needs of society, to prepare for them, to enter upon them and to progress in them. The wise guidance of these children is not an easy task ; but in the interests of the welfare of the State, it will have to be done. Sometimes it happens that rural people go to the town thinking that there may be some bright chance for them to earn and then find themselves stranded. "A wise foreseeing counsellor would by no means advise all against going, but much could be done to reduce the large wastage resulting from wrong movements to the city. Wise guidance of rural young people in this respect would serve country and city interests equally."¹⁰

(b) *Methods of Vocational Guidance.*

The three methods of guidance generally adopted in the United States¹¹ are (1) instruction, (2) exploration and try-out, and (3) counselling.

The activities under instruction are directed toward assisting the pupils to obtain knowledge of occupations followed in the country and helping them to cultivate correct attitudes, ideals and appreciations. This is done through general talks on occupations, use of books on appropriate subjects, investigations by pupils themselves under proper direction by visiting manufacturing and other concerns.

Under exploratory and try-out activities, the pupils are given opportunities to become acquainted with various fields in vocations and to try them out. As the students progress with these exploratory and try-out activities,

¹⁰ O. L. Hatcher, *Guiding Rural Boys and Girls*, McGraw-Hill Book Co., New York, 1930, p. 15.

¹¹ A. J. Jones, *Principles of Guidance*, p. 279.

facts regarding their abilities, interests, aptitudes and aspirations are recorded. The performance in school subjects supplies some information on these points. The capacity and aptitude shown by the pupils in practical instruction subjects yield some information. The interest shown by them in school clubs and societies afford some information. Tests of intelligence, aptitude and achievement throw some light. In short, every activity of the pupil is utilized to explore his vocational bent and aspiration. The pupil also is helped to understand his own ability and to plan accordingly for his vocation. Kitson says :¹² "All the evidence indicates that one should not count luck as a very powerful factor in his vocational career. If, like Micawber, he only waits for 'something to turn up,' he is not very likely to succeed. One should rather study to find out the demands of the occupations, analyse himself in order to discover his assets and liabilities, examine the lives of men who have succeeded, make plans, and then resolutely fulfil those plans."

Under counselling, a person called counsellor, who is specially qualified to do so, offers assistance to the pupils, by interviewing them individually, in the choice of their vocation. He studies their interest, capacities and aspirations by his own talks with them, by his study of their records of work at school, by interviewing their parents wherever necessary and by consulting the class teachers or subject teachers as the case may be. Wherever reliable aptitude tests for vocations are available, he gives them to the pupils and finds out their aptitude for particular vocations or trades. He then offers them assistance to secure the training for the vocations. After the training, he helps them in getting suitable jobs. This is placement. After getting the jobs, he follows their work and sees where they want guidance to fit them in those jobs. This is follow-up. The duties of a vocational counsellor are very diversified, and therefore he is specially trained for his task.

¹² H. D. Kitson, *How to Find the Right Vocation*, Harpers and Brothers, Publishers, New York, 1929, p. 189.

(c) *Initiation of Vocational Guidance in Mysore.*

The idea of organized vocational guidance is new to Mysore. Therefore the initiation of the movement must be made very cautiously.

The school is the best place to begin. Courses in occupations for pupils may be organized in the third and fourth year classes of middle schools and in the last two forms of the high schools. Schools in the cities of Bangalore and Mysore may be selected for the purpose in the beginning. The need for guidance is greater in these places than in the smaller centres.

It is very necessary, in the first instance, to have trained counsellors. Edgerton says:¹³ "The urgent need for specially trained men and women to base their diagnoses and recommendations for the problems of individual pupils upon accurate knowledge demands more suitable training courses for counsellors in prospect and in service. The best results are had when the training includes experiences in investigation of occupational conditions as well as in the problems of school counselling."

A few counsellors may be trained during a summer vacation by holding a special training class, and may be assigned to the schools. One counsellor can serve two or three schools, if they are small. Further training of the counsellors can be taken up during the succeeding summers. During the year, they will have to gather occupational information by visiting plants and reading literature connected with occupations in the State. They will have to try intelligence and aptitude tests which may be now and in the future available as a result of the labours of the psychology department of the Mysore University and examine the results carefully. The counsellors have to deal with educational problems as well, especially in seeing that children do stay in general schools as long as possible. Kitson says:¹⁴ "It should not be

¹³ A. H. Edgerton, *Vocational Guidance and Counselling*, The Macmillan Co., New York, 1926, p. 193.

¹⁴ H. D. Kitson, *Opportunities in Vocational Guidance*, Teachers College Record, Vol. XXXI, No. 8, May 1930, p. 765.

understood that the counsellor advises regarding vocational problems exclusively. He deals with educational problems as well. Indeed, in secondary schools these problems consume more time than purely vocational matters."

In Mysore there are no books like May Rogers Lane's¹⁵ "Vocations in Industry" and "Manual to accompany Vocations in Industry". Encouragement will have to be given to suitable persons to bring them out.

The scheme may be first tried in the cities of Bangalore and Mysore. When it is fairly successful here, it may be extended to other places. The confidence of the parents and the general public will have to be gained first; for the success of a movement like this depends largely on this confidence. The co-operation of local industrial and commercial magnates is also important; for their help is required in obtaining information about occupations, in arranging for vocational training, and in doing placement and follow-up. As the programme extends the counsellor will come into contact with every economic group and hence he will have to be a man of broad views and great understanding.

Dr. C. A. Prosser, one time Director of the Federal Board for Vocational Education in the United States, says:¹⁶ "Two things are necessary in any successful programme of vocational guidance: a greater knowledge of the child than we have thus far attained through the work of the schools, and the close co-operation of other agencies with the schoolmaster in an attempt to give advice and counsel to the child and to aid in this choice of a life work." In Mysore attention must be directed toward the study of the child and toward securing the co-operation of all agencies that would aid in helping the child for success in life. The Boy Scouts Movement is also a fruitful field for both these items. Dr. Payne writes:¹⁷

¹⁵ May Rogers Lane, *Vocations in Industry*, International Text-Book Co., Scranton, Pa., Vols. I to III, 1932.

¹⁶ M. Bloomfield, *Readings in Vocational Guidance*, Ginn & Co., Boston, 1918, p. 355.

¹⁷ A. F. Payne, *Organization of Vocational Guidance*, McGraw-Hill Book Co., New York, 1925, p. 75.

“ The time has arrived when we must pay an increasingly large measure of attention to the public school as a device which automatically functions in the selection and segregation of specified groups from the great mass of students as they enter and make progress in these schools. The writer believes also that attention must be given to other quasi-educational organizations such as the Boy Scouts with their well-organized series of tests and tasks ; the Y.M.C.A. with its loosely organized series of social attitudes and reactions, and other similar social institutions and organizations.”

CHAPTER IX.

Summary of Recommendations.

Trade and Industry.—

1. The present artisan-type industrial schools be strengthened by granting more staff, equipment and accommodation.
2. Scholarships on a more liberal scale be granted to children of poorer artisans to undergo training in the artisan-type industrial schools.
3. The artisan-type industrial schools be increased in number so that every taluk may have at least one such school.
4. Industrial schools started by private agencies be encouraged to increase the number of seats available therein by the State offering them adequate financial aid, provided the agencies are willing to fit their work into the general plan of vocational education in the State.
5. Short-unit courses, lasting for a week or two, on definite subjects of importance to the adult-artisans be arranged in all-day industrial schools.
6. Home industries classes, intended to train poor women for carrying on cottage industries, be established throughout the State.
7. The Government Weaving School be converted into a full-fledged Textile School to train efficient workers, foremen and supervisors for textile industry.
8. More weaving demonstration parties be arranged to provide instruction to hand-loom weavers in more up-to-date methods of spinning and weaving.
9. The number of seats available in the Chamarajendra Technical Institute at Mysore be increased.

10. Demonstration parties for extending instruction in handicrafts to artisans be organized as has been done for weaving.
11. Industrial engineering be introduced in the School of Engineering at Bangalore and the latter be converted into a Technological Institute.
12. The project method and the co-operative method be introduced into vocational schools wherever and whenever possible.
13. Industrial arts instruction be introduced in all primary, middle and high schools for liberal education purposes. About a fourth of the middle and high schools be converted into vocational middle and high schools.

Agriculture.—

14. The number of seats available in the Hebbal Agricultural School be increased to meet the growing demand for agricultural education.
15. A special course in animal husbandry be organized in the Hebbal Agricultural School.
16. A good system of extension education in animal husbandry be established.
17. The District Boards be stimulated to establish vernacular agricultural schools giving a year's course in agriculture for the benefit of the ordinary farmers.
18. Evening agricultural classes be started for the benefit of adult farmers.
19. Part-time agricultural classes with short-unit courses be organized for giving instruction to farmers in specific agricultural subjects.
20. Agricultural middle and high schools for imparting vocational efficiency to farmers' sons be established.

21. The number of agricultural extension agents be increased.
22. Clubs like the 4-H Clubs of the United States be organized, especially in villages, to improve farm and home practices.
23. Agricultural arts education be extended in middle schools and be organized in the high schools.

Sericulture.—

24. Sericulture instruction on arts-level be organized in more middle schools and in high schools.
25. More silk-twisting and silk-reeling classes be established in sericulture tracts.

Commerce.—

26. Courses in advertising, secretarial work, retail selling, salesmanship and insurance be organized in the commercial schools.
27. Commercial middle and high schools be established to impart vocational competency to boys who would go into trade and commerce.
28. Commercial arts instruction be introduced into general middle schools.
29. Vernacular commercial classes for adult traders be organized by the District Boards with financial aid from the Government.

Home-Economics.—

30. Household arts be introduced into all girls' middle and high schools and be taught in a practical manner.
31. Evening classes in home-economics for adult women be organized on the basis of projects.
32. Extension agents in home-economics be appointed.
33. Courses for hotel managers and hotel employees be organized.

34. Courses for contractors in building and related trades be established and the Government patronise only trained contractors.

Teacher-Training.—

35. Training for teachers of vocational education be organized. Methods of teaching particular subjects, and the science, mathematics, sociology and economics related to the subjects, and principles of general and vocational education would be the main topics, in addition to practice of the trades.
36. Teachers for artisan-type vocational schools should have general education of at least the middle school standard; and teachers for higher types of vocational schools of the high school standard as the minimum.
37. Teachers for extension work, part-time schools and evening schools be given training to fit them to their respective duties.
38. Teachers of practical arts be specifically trained in the practice of the particular and allied subjects they have to teach, and they be instructed in the philosophy of practical arts as distinct from that of vocational education.
39. Training of teachers in service by summer classes and extension courses be organized early.

Investigation.—

40. Research and investigations in topics usually dealt with in home economics be stimulated, so that there may be enough matter to be taught in the subject with particular reference to Mysore conditions.

Vocational Guidance.—

41. Vocational guidance be introduced, first in the public schools of the cities of Bangalore and Mysore, and then gradually in other places.

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42. Surveys of occupations and the kinds and number of jobs existing in each occupation be determined periodically to aid in vocational guidance of pupils in schools.
43. Quasi-educational organizations like the Boy Scouts and Girl Guides and extra-curricular activities in schools be availed of for vocational guidance.

Compulsory Education.—

44. Primary education be made gradually compulsory throughout the State in order to enable the masses to read and understand printed material designed for enhancing their vocational efficiency and for promoting culture and civism.

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